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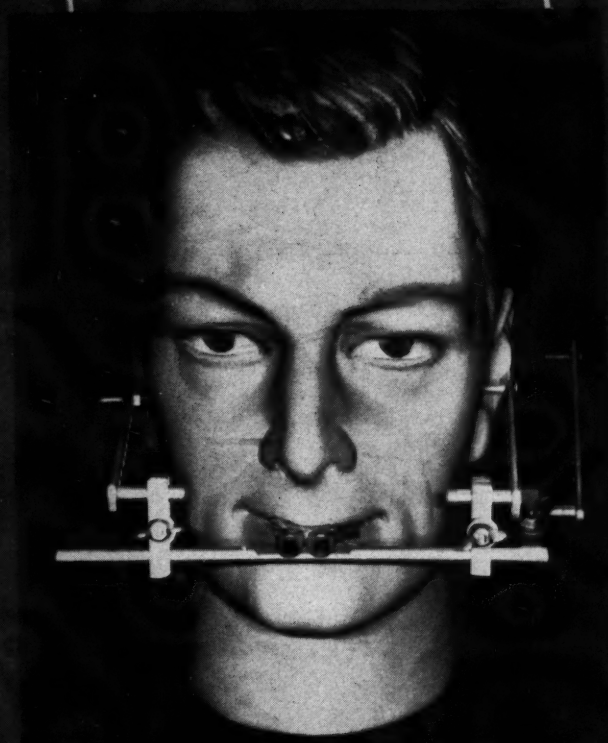
April 1960

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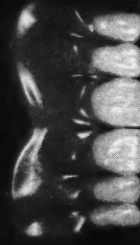
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APRIL 1960**About Our****CONTRIBUTORS**

DAVID WALDMAN, B.S. (New York University, 1932), D.D.S. (New York University, College of Dentistry, 1935) has been Acting Associate Chief of Surgery at Greenpoint Hospital where he completed internship in 1936. He was a member of the teaching staff, New York University College of Dentistry after military service. He is at present a member of the staff at Lutheran Hospital, New York City. Doctor Waldman's article in the current issue is SLIDING FLAP TENSION-REDUCING FRENECTOMY.

LEO STOLL, D.D.S. (New York University College of Dentistry, 1931) is an authority on occlusion and articulation and has contributed to the clinical and theoretic knowledge in this field. In this issue he presents the fourth installment of a series of articles which appear under the general title, CLINICAL APPLICATIONS OF OCCLUSION AND ARTICULATION.

ROBERT A. ATTERBURY, B.S., D.D.S. (University of Illinois, College of Dentistry, 1942) is Clinical Assistant Professor of Oral and Maxillofacial Surgery, University of Illinois, Research and Educational Hospitals, and is a regular contributor to DIGEST. In the current issue Doctor Atterbury presents MAXILLARY PROTRUSION TREATED BY LABIAL ALVEOLECTOMY.

HARRY LANGA, B.S. (College of the City of New York, 1930), D.D.S. (New York University, College of Dentistry, 1934) has made a thorough clinical application of analgesia in dentistry and has published a number of articles on the subject. In the current issue Doctor Langa presents the second of a two-part article, ANALGESIA FOR MODERN DENTISTRY.

THALES THEODORE, D.D.S. (St. Louis University Dental School, 1956) is a general practitioner and a member of the American Dental Association, American Society of Dentistry for Children, and the Royal Society of Health (England). Doctor Theodore publishes in DIGEST for the first time this month. His article is THE USE OF MEDAPRIN® IN ORAL SURGERY: A PRELIMINARY REPORT.

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EDWARD J. RYAN, B.S., D.D.S., Editor**WANDA T. PICKARD, B.A., Assistant Editor**

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SLIDING FLAP

Tension-Reducing Frenectomy

DAVID WALDMAN, B.S., D.D.S., Flushing, New York

D I G E S T

A frenectomy is indicated if, on pulling on the upper lip, the frenum attachment blanches the free gingival interproximal papilla. The procedure is valuable as an aid to improve the esthetic quality in prosthodontics, to secure better retention of approximating and contacting central incisors orthodontically. In oral hygiene the procedure is useful as a means to eliminate food

debris deposition and gingival recession. In periodontic techniques a frenectomy is a necessity. Step-by-step directions for completing this procedure are presented.

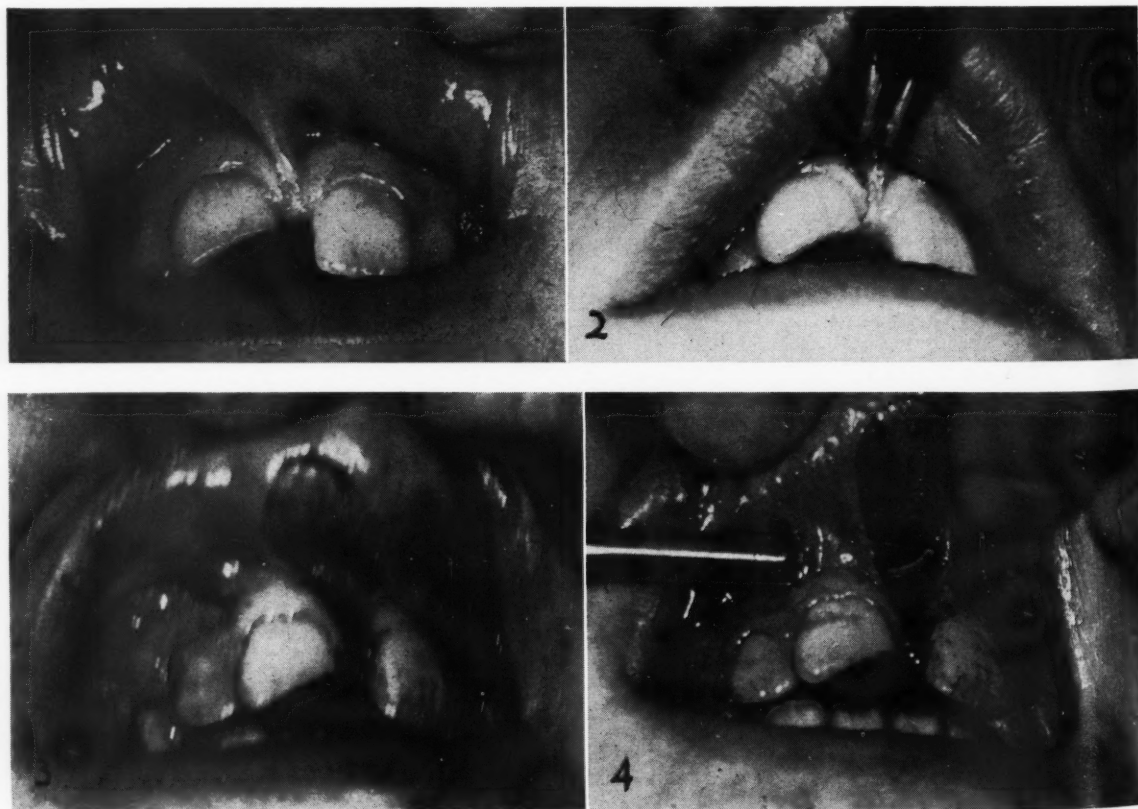
Condition Described

A frenum that is a broad, fan-shaped muscular attachment is frequently encountered by the dentist. Usually, but not always, these attachments extend on the maxilla, between the separated

central incisors, and onto the palatal incisive papilla. When the lip is pulled upward and outward, a definite blanching of the gingival crest between the central incisors is apparent.

Corrective Procedure Devised

To facilitate the proper coaptation of the severed labial frenum, the Sliding Flap Tension-Reducing Frenectomy was devised. The procedure described here is for a maxillary frenectomy. It is equally efficient in mandibular frenectomy or muscle attachment areas.



Surgical Procedure

The following steps are taken:

1. The upper lip is held tautly upward, forward, and outward so that the attachment is clearly outlined (Fig. 1). The blanching will indicate whether it extends lingually and includes the anterior palatine papilla.

2. A wide hemostat forcep is clamped at the center of the frenum and pulled upward (Fig. 2).

3. Using surgical scissors a V-shaped cut is made below the clamp, as closely and as parallel to the bone as possible.

4. The hemostat is moved downward and another V-shaped notch is made above the scissors. The connection of these two V's creates a diamond-shaped piece of excised muscular tissue.

5. The mucoperiosteum of the exposed bony area is curetted to reduce the possibility of fibrous reattachment.

6. A vertical incision is made approximately 8 millimeters distal to each side of the diamond-shaped excised area. These incisions are parallel to each other (Fig. 3).

7. Hugging the bone as closely as possible, a scalpel is drawn gently through the vertical incisions until the scalpel appears in the denuded area. The mucous membrane over the scalpel is carefully lifted outward, creating



1. Broad fan-shaped frenum with separated central incisors showing blanching of interdental papilla.

2. Application of hemostat clamp in center of frenum.

3. Frenum removed showing diamond-shaped excised area and lateral parallel incisions.

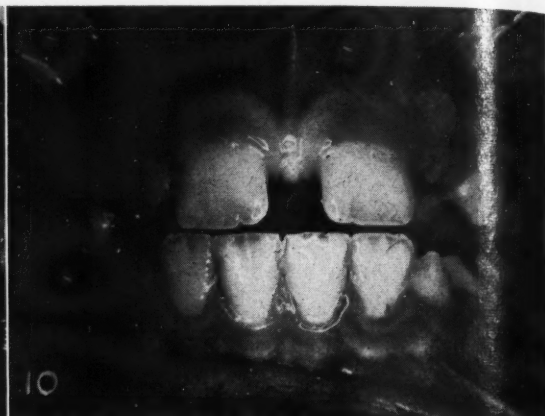
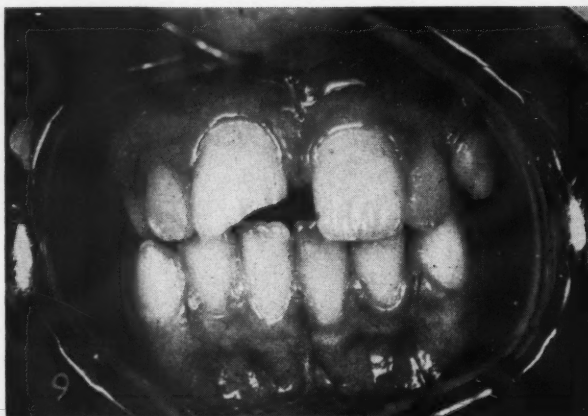
4. Scalpel elevating mucous membrane flap.

5. Sutures in place.

6. Surgical cement rolled into cigar-like form.

7. Surgical cement in position.

8. Burlap foil, contoured and covering cement.



a soft tissue movable flap on each side (Fig. 4).

Sutures Placed—(1) Two or three tight nylon sutures approximate the upper and lower V's. The frenum now appears as a straight line. The black nylon sutures are stronger, cleaner, and less irritating to soft tissue than black silk.

(2) An elliptical space is produced on each side of the closed frenum area. A loose suture is placed in each vertical incision (Fig. 5).

Dressing Applied—A putty-like sedative, antiseptic, hemostatic paste is mixed and rolled into a cigar-like form (Fig. 6). With the fingers well covered with petroleum jelly, this paste is patted over the entire surgical area (Fig. 7). The lip is pressed and rolled against the paste, smoothing and contouring it.

Protective Measure—Properly shaped Burlew Foil is placed over the cement, preventing its dislodgement while it is setting and protecting the

9.
Postoperative view showing healing and elevation of frenum attachment.

10.
Broad frenum attachment.

11.
Two weeks after surgery, cement removed. Tissues swabbed with Tincture of Metaphen.

12.
Three weeks after surgery.

surrounding soft tissues while healing takes place underneath (Fig. 8).

Composition of Surgical Dressing Cement—The powder contains the following ingredients:

Thymol iodide	2 grams
Zinc oxide	30 grams
Tannic acid	2 grams
Rosin	10 grams
Asbestos fibres can be added, if desired.	

The liquid consists of equal parts of the following:

Eugenol
Peanut oil
Olive or mineral oil

Postoperative Instructions

The patient is given specific instructions as to diet, swelling, and pain (which is usually slight or absent). The surgical pack is left in place for seven to ten days. Then, gently drawing the hardened cement away from the soft tissues, the sutures are cut, using a curved surgical scissors. Occasionally, it is necessary to crush some cement to facilitate its removal. After the surgical pack has been removed, the teeth are scaled. Tincture of Metaphen® is lightly swabbed over the healing area to remove any slough or debris. The patient is given final instructions before being dismissed (Fig. 9).

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Clinical Applications

of OCCLUSION and ARTICULATION—

Part Four

LEO STOLL, D.D.S., Woodmere, Long Island, New York

D I G E S T

In this installment of his seven-part article the author discusses and illustrates the recording of the relation of the mandibular hinge-axis. The use of the relator originated by the author is described in detail. Basic theoretic principles concerning the mandibular hinge-axis are also discussed.

The Mandibular Hinge-Axis Relation Record

The method for using the maxillomandibular relations of casts or appliances mounted on an articulator as an effective substitute for the disposition and/or movements of the mandible of a patient, as regulated by the temporomandibular articulations, requires the making of interocclusal wax bite records of essential maxillomandibular relations on the patient.

Maxillomandibular Relations De-

termined—These wax bite records are then used for determining the necessary variety of maxillomandibular relations of the casts or appliances on the articulator, so that they can be made to duplicate the recorded maxillomandibular relations of the patient.

Mounted Casts Occluded—After the articulator is adjusted and the interocclusal wax bite records are removed, the mounted casts or appliances must be occluded to make the opposing teeth come into contact. This is required because of the necessary slight separation between the opposing teeth when the bite record was made. This has been described previously.

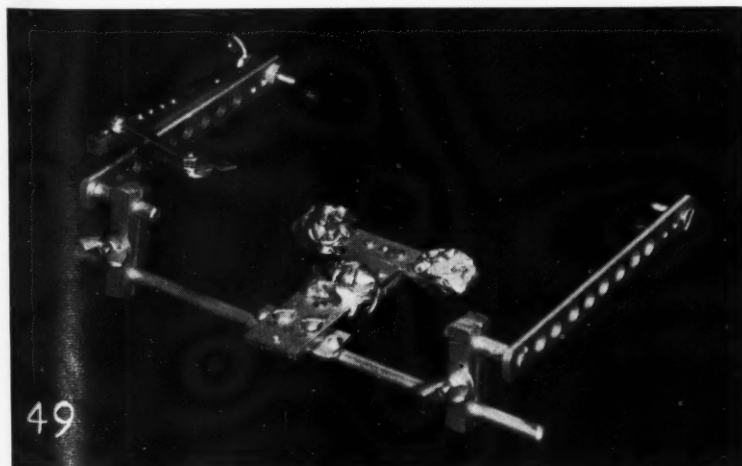
Rotational Movements Theoretically Identical—Theoretically, the hinge-axis of the rotational movement on the articulator, used for occluding the mounted casts or appliances, should be identical with the hinge-axis of the mandibular rotational movement of the patient.

Close Equivalence Required Clinically—Clinically, because of the extremely small degree of rotational movement required on the articulator to bring the slightly separated opposing teeth into occlusal contact, it is merely necessary to have a reasonably close equivalence between the hinge-axis in the articulator and in the patient.

Gross Error Required to Produce Practical Difference—It would require a great error in the equivalence of the hinge-axis of the patient and the articulator to make any appreciable practical difference in the relationship between the occluded maxillomandibular relations of the casts or appliances on the articulator and the occluded maxillomandibular relations in the patient.

Record Made of Location of Hinge-Axis—It is desirable, therefore, to approximate closely and record on the patient the disposition of the mandibular hinge-axis around which the mandible rotates during its hinge movement.

Mechanical Equivalent Related to Articulator Hinge-Axis—This record can be transferred and used for re-



49.

The mandibular hinge-axis relator designed by the author.

50.

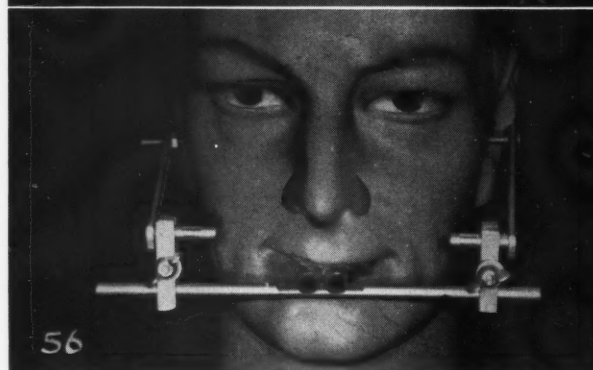
The relator stabilized in the patient and prepared for the necessary adjustments. The occlusal plane indicator is temporarily removed to simplify the illustrations.

51.

The right arm is shown before adjustment.

52.

The right arm is shown after it is adjusted.



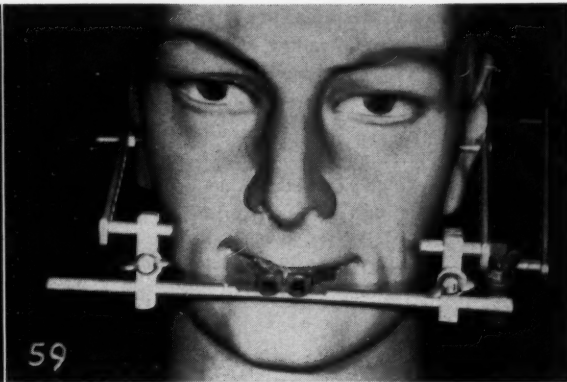
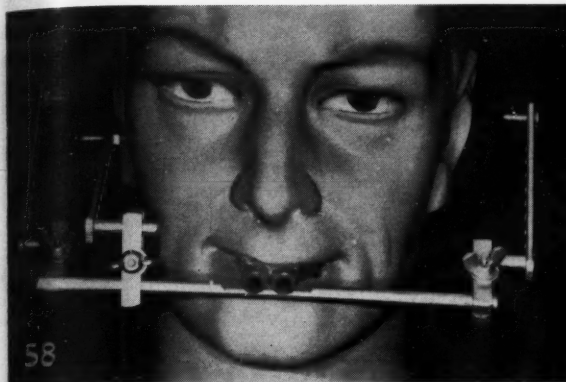
53.
A front view showing the right arm adjusted and the unadjusted left arm.

54.
The left arm is shown before its adjustment.

55.
The left arm is shown after it is adjusted.

56.
A front view showing the right and left arms adjusted.

57.
The arms of the relator are adjusted and the occlusal plane indicator is in its adjusted position. (For convenience the previous photographs did not show the occlusal plane indicator in its place.)

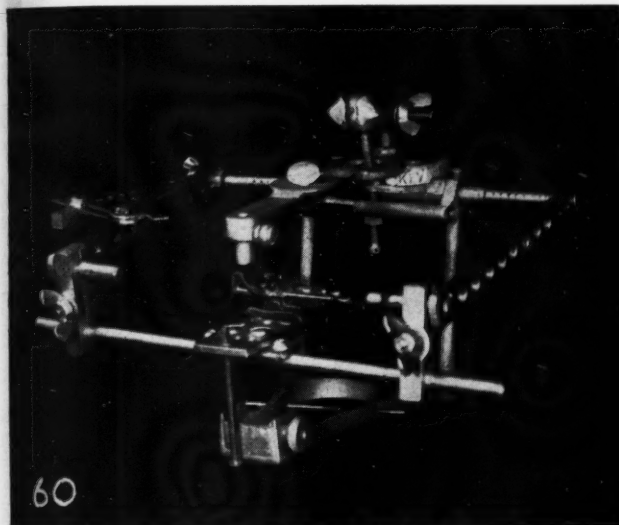


58 and 59.

Double exposure views to dramatize

the two simple steps required for adjusting the arms of the relator. In Figure 58 the right arm is shown be-

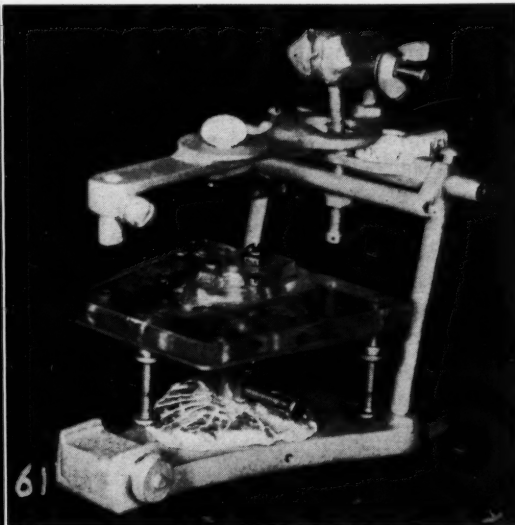
fore and after adjustment, and in Figure 59 the left arm is shown before and after adjustment.



60.

The completed mandibular hinge-axis relator record being transferred to the articulator. Note the extended rods, passing through the hinge pin of the articulator, engaging the hinge-axis points of the relator. A levelling screw on the relator, seen in front of the incisal table of the articulator, is used for adjusting the plane of the relator so that its occlusal plane indicator is parallel to the upper cast holder of the articulator.

The plane parallel to the approximate occlusal plane is used as an orientation plane for mounting the casts or appliances in the articulator. It is the plane most closely related to the occlusal surfaces of the teeth. When this plane is closely parallel to the base of the articulator, it is visually helpful in arranging the occlusal surfaces of the teeth.



61.

An adjustable mounting device is shown on the articulator.

62.

Marking the hinge-axis points on a patient. A flexible ruler, notched $\frac{1}{2}$

inch from its end, is used. The hinge-axis points are arbitrarily determined $\frac{1}{2}$ inch anterior to the tragus of the ear on a line from the tragus of the ear to the ala of the nose. This measurement is not critical from a practical standpoint.



lating the mechanical equivalent of the patient's mandibular hinge-axis on the articulator with respect to the casts or appliances when they are mounted on the articulator.

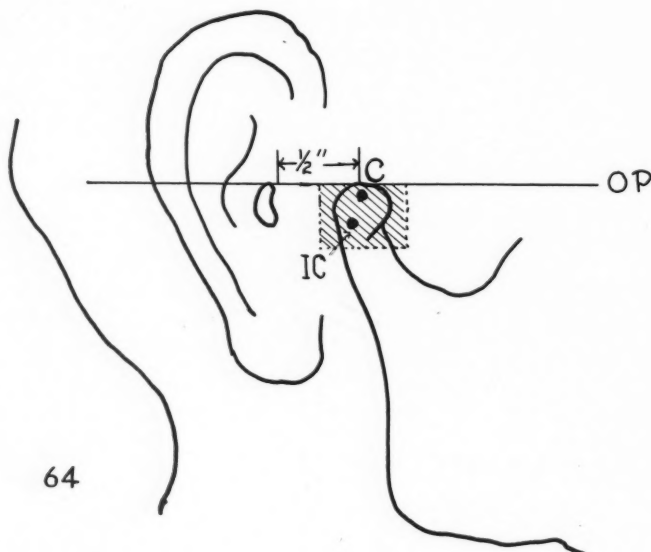
Description of Hinge-Axis Relator—

A mandibular hinge-axis relator, designed by the author, is shown in Figure 49. Essentially, it consists of the following parts: (1) a bar support which is transversely stabilized to the denture area with an attached T-shaped plate, (2) two movable arms with hinge-axis indicator pins, and (3) two specially designed clamps for releasably securing each of the arms independently to the bar support. An occlusal plane indicator can be attached, if desired.

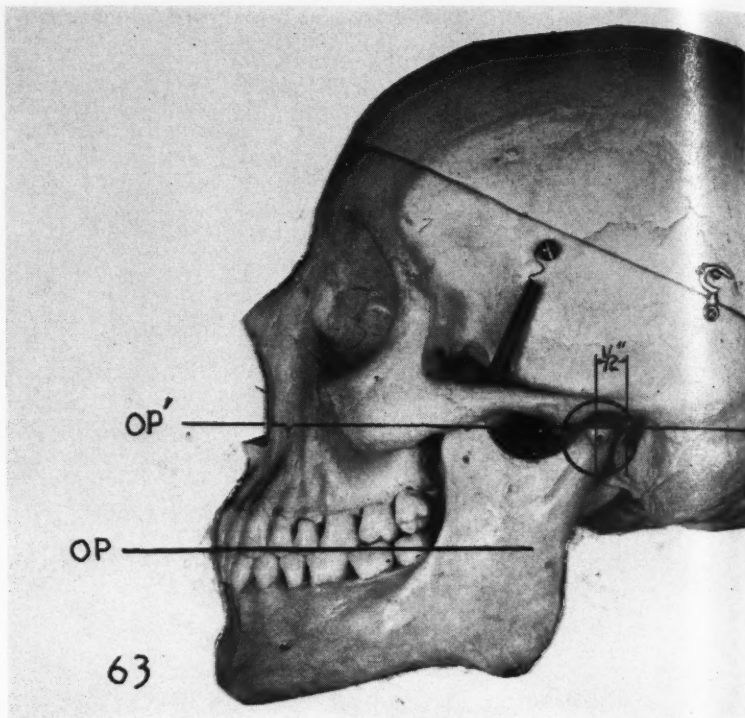
Procedure for Recording Relations

Clinically, the device is used on the patient for recording the approximate relation of the mandibular hinge-axis to the mandible in the following manner:

1. The right and left hinge-axis points through which the patient's mandibular hinge-axis is assumed to pass is marked with a wax pencil on the patient. These points are arbitrarily estimated to be $\frac{1}{2}$ inch anterior to the tragus of the ear on a line from the tragus to the ala of the nose. This estimate is not critical. The method for doing this is shown in Figure 62.



64



63.
A skull with the approximate plane of occlusion shown as the line OP. The line, OP' from the tragus of the ear to the ala of the nose is approximately parallel to the line OP, and is used for adjusting the occlusal plane indicator of the mandibular hinge-axis relator. The general area of the condyle is shown $\frac{1}{2}$ inch anterior to the tragus of the ear on the line OP'.

2. Before using the relator, it is prepared so that its adjustable arms are releasably secured at the ends of the supporting bar. This will facilitate the placing and subsequent necessary adjustments of the instrument on the patient.

3. The relator is stabilized to the denture area by means of the T-shaped plate. Softened wax is placed around the T plate in the approximate areas which will engage the teeth (or bite block substitutes). It is placed inter-occlusally and then forcibly held by the occluded jaws. In addition to stabilizing the instrument, registrations of the upper teeth (or bite blocks) made in the wax on the T plate are used later for seating and securing the upper cast in the record when it is transferred to the articulator.

64.

The shaded area of the diagram is the general area in which an arbitrarily estimated hinge-axis point, C, or a functionally recorded hinge-axis point, IC, will generally be found. Regardless of how the hinge-axis points are determined, they are invariable in the same general area and close to each other.

Adjustment of Arms—Each of the arms can now be independently adjusted in the following manner:

1. The right clamp securing the right arm is released and the arm is adjusted so that the point of its hinge-axis indicator pin lightly touches the right hinge-axis point, previously marked on the patient. The clamp is then securely locked.

2. The left clamp securing the left arm is released and the arm is adjusted so that the point of its hinge-axis indicator pin lightly touches the left hinge-axis point, previously marked on the patient. The clamp is then securely locked.

3. The occlusal plane indicator is adjusted so that the point of the indicator is placed in the region of the ala of the nose and secured by the nut provided for this purpose on the right hinge-axis indicator pin. The procedure just described is shown in the photographs.

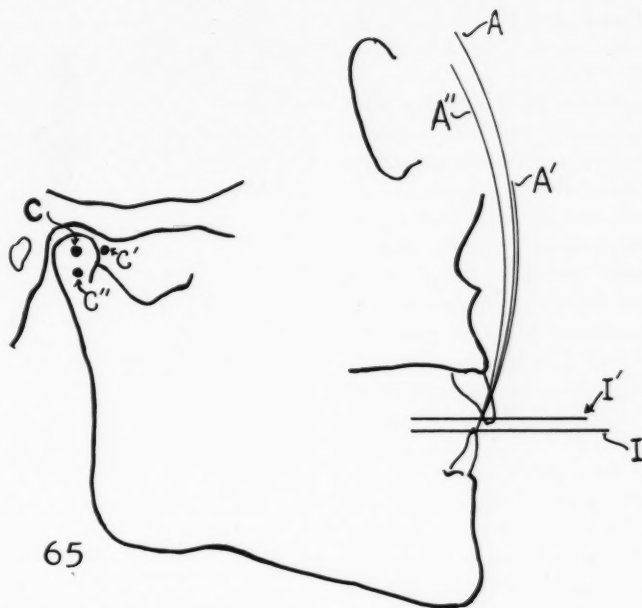
4. This occlusal plane is used in preference to the orbital plane which is always at a variable angle to the occlusal plane. All the claims for the importance and value of the orbital plane of orientation, for the purposes being discussed, are unfounded. Technically, any plane of orientation could be used.

Additional Means for Determining and Relating The Mandibular Hinge-Axis

The Snow Type Face-Bow Devices—These are well suited for recording the relation of the mandibular hinge-axis when the hinge-axis point locations on the patient are arbitrarily determined.

Method for Use: The one serious objection concerning these devices is the awkward method required for adjusting them. This is probably the major reason why these devices never became popular. The author's relator was designed to overcome this objection.

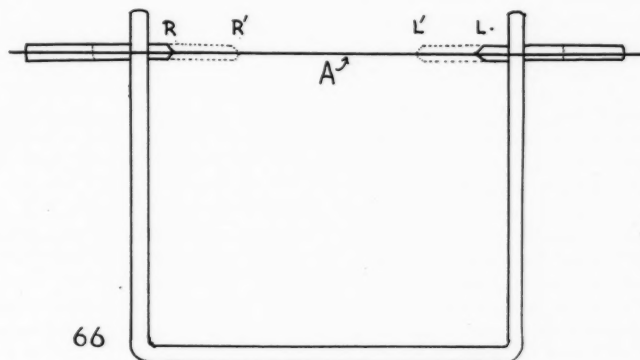
Recorders Attempt to Locate the Mandibular Hinge-Axis Functionally: A recorder is attached to the mandible with a clutch, or otherwise stabilized, and the mandibular hinge movements of the patient are used for adjusting



65. Diagram showing the insignificant practical difference in rotational movements of a small magnitude when the movements are generated from a variety of closely approximated centers. Any difference for the small degree of movement is only theoretically debatable.

The arcs A, A' and A'' starting at an incisal point are generated from the centers C, C' and C''. The rotational point paths of movements of the incisal point from the line I to line I' from each of the three centers is shown. From a practical standpoint, the three point paths of movement of the incisal point are identical for the amount of movement being considered.

66. Diagram of a conventional face-bow which can be used for approximating and recording the mandibular hinge-axis, A. The hinge-axis indicator points on the face-bow are adjusted in or out equally, as required, and the points will always be in the same straight line of the axis.



the instrument to locate the instant centers, or hinge-axis points, through which the mandibular hinge-axis is assumed to pass.

Procedure Time Consuming: The preparations required for stabilizing the devices are involved and the technique for using them is tedious and time consuming. Despite this, the mandibular hinge-axis points determined with these devices are always in the immediate vicinity of the mandibular hinge-axis points that would be arbitrarily determined on the patient.

Estimated Differences Theoretically Debatable: Clinically, for hinge movements of a small magnitude, any difference in the mandibular rotation resulting from differences in the hinge-axis, as arbitrarily estimated or functionally determined, are insignificant

and of no practical importance. The differences are only theoretically debatable.

Complicated Technique Not Justified: In view of the small degree of rotation involved on the articulator when mounted casts or appliances are occluded to make contact of the opposing teeth after a properly made interocclusal wax bite record is removed, and in view of the practical insignificant error in the hinge-axis because of any difference between arbitrarily estimated or functionally recorded hinge-axis points, a complicated technique with tedious procedures is not justified.

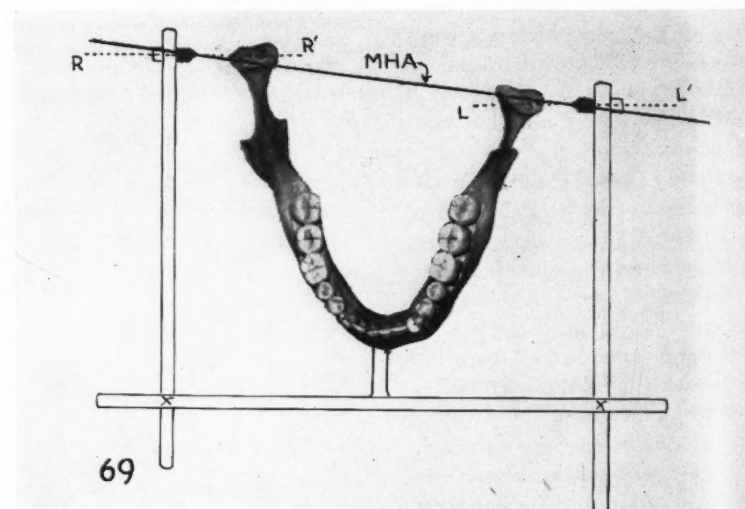
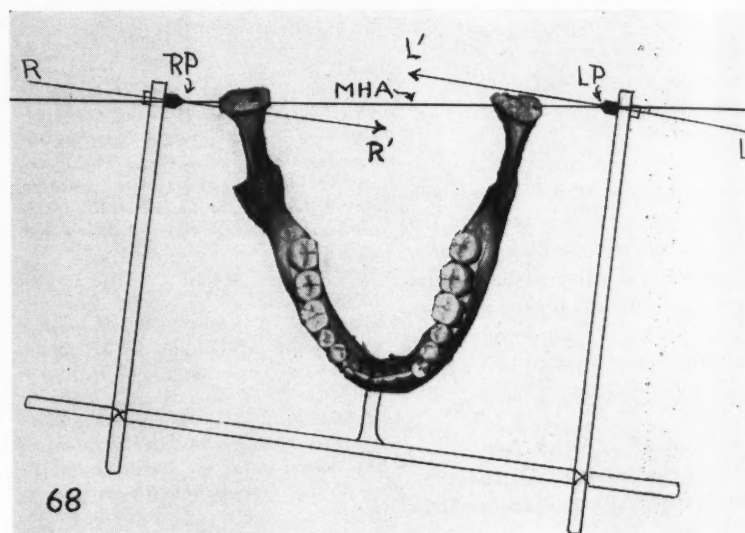
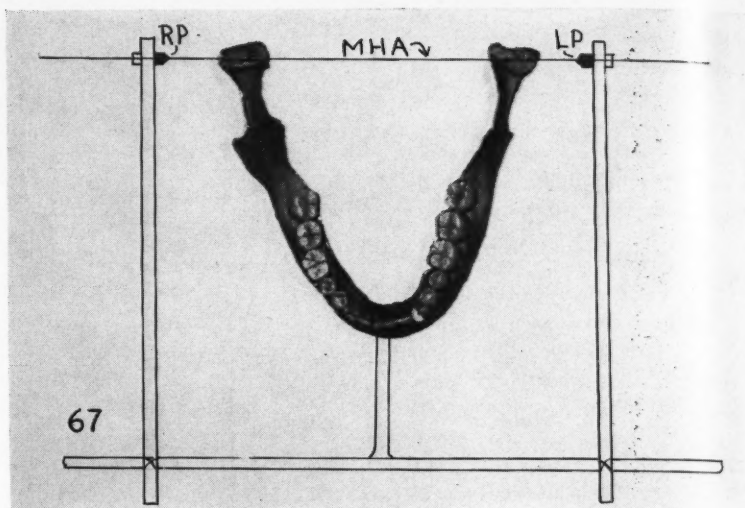
Direct Method Approved: The simple direct method for arbitrarily estimating the hinge-axis points and recording them on the relator is just as effective and accurate from a practical clinical standpoint.

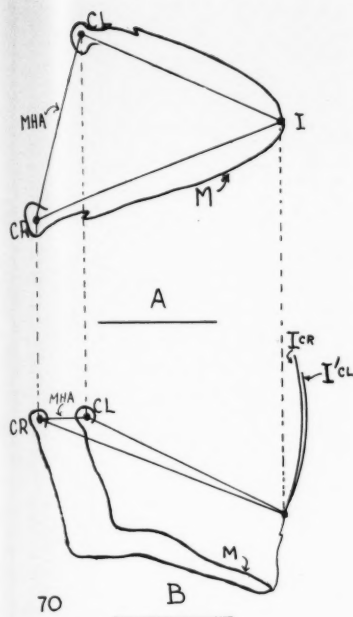
Adjustable Mounting Device Used—Another method available for arbitrarily determining the relative disposition of the mandibular hinge-axis on the articulator is theoretically less desirable than a mandibular hinge-axis relator record obtained from a patient, but is practical and clinically useful. This is the adjustable mounting device, shown on the articulator in Figure 61. It is adjustable vertically and the level of the table of the device can be altered to suit prevailing requirements of the case.

67, 68, and 69.

Three of many possible variations in the relative position the mandibular hinge-axis relator may assume after it is adjusted. The mandibular hinge-axis of the patient, MHA, is always regarded as passing through the hinge-axis indicator points of the relator, RP and LP. Because the arms of the device are independently adjustable, the long axis of the hinge-axis indicator pins will most usually not be in a single straight line. For this reason, the indicator pins of the relator must not be moved when transferring the relator record to the articulator. The articulator is provided with the proper means for engaging the hinge-axis points of the relator.

The divergence from the mandibular hinge-axis of the hinge-axis points of the relator if the hinge-axis indicator pins are moved along their long axes, RR' and LL' , can be seen.





70A. Projection to a horizontal plane of the hinge-axis points, CR and CL, and the incisal point, I, from the mandible, M. The mandibular hinge-axis, MHA is shown passing through the hinge-axis points CR and CL.

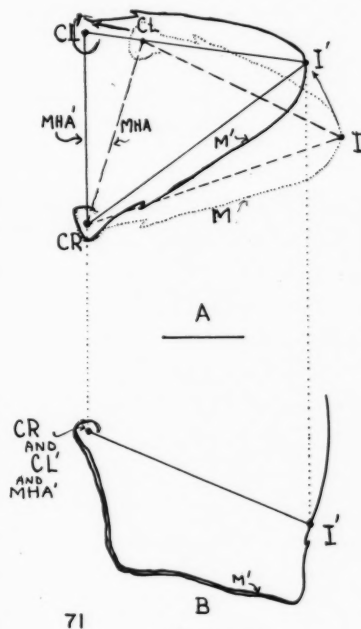
70B. The left side vertical plane projection of the same points and lines of the mandible, M. The hinge-axis points, CR and CL, are known to be fixed and immovable. From established principles in kinematics, if only two points on a body, not in a straight line perpendicular to the plane of hinge movement, can be fixed, no movement of the body can take place. (This principle was previously discussed.) In the impossible situation that the body could rotate around axes passing perpendicularly from the plane through each of the fixed hinge-axis points, then the incisal point, I, would have to make two different simultaneous point paths of movement along arcs, ICR and ICL. It is evident that this is a physical impossibility.

71A. Projection to a horizontal plane of the hinge-axis points, CR and CL, and the incisal point, I, of the mandible, M. With a technique known to orthographic projection, the mandible, M, is rotated around a vertical axis passing through the hinge-axis point, CR, to the position, M', so that the hinge-axis point CL moves to CL' on a line perpendicular to the side plane; and passing through the point CR. The incisal point, I, moves to I' and the man-

General Principle: Theoretically, the mounting device is based on the general principle of the Bonwill triangle. Practically, considering the degree of rotational movement required on the articulator, the probable effective error, because of the lack of equivalence between the articulator's and patient's hinge movement, is insignificant. Any effective error is only theoretically debatable.

Machines with Plane Motion

Parts of machines with plane motion may be divided into three groups:



dibular hinge-axis, MHA, moves to MHA'.

71B. The left side vertical plane projection of the points and lines on the mandible, M'. Since the hinge-axis points are on the same single line perpendicular to the plane of projection, they are represented by the single point, CR and CL. This is a basic principle in orthographic projection drawing. The incisal point, I', can now rotate around a single hinge-axis, MHA', passing through the superimposed points, CR and CL'. This demonstrates that the mandibular hinge-axis must pass through the two hinge-axis points on a line perpendicular to the plane of hinge movement. This perpendicular line represents the mandibular hinge-axis.

(a) Those with angular rotation about a fixed axis; (b) those with angular movement but not about a fixed axis; (c) those with linear but not angular motion.

Instant Centers—Parts of machines having relative angular movements may be studied by the use of instant centers. The mandibular hinge-like movements can be classified as angular movements not about a fixed axis, that is, about a movable axis.

Fixed Axis—It is known that the mandible is capable of translational gliding and hinge-like rotational movements and, as is most usual, any combination of both basic types of movement. It has been shown that the mechanical hinge-axis of the hinge-like rotational mandibular movements invariably take place around an axis passing through the fulcrum of the mandibular lever. The translational, or gliding movements are merely the shifting movements of the mandibular hinge-axis itself.

Resultant Mandibular Hinge-Axis: Functionally, the hinge-like mandibular movement is usually accompanied with some component of translational movement and the position of the resultant functional hinge-axis of the resultant hinge-like movement will be slightly different from the position of the mechanical hinge-axis of the mandibular lever passing through its fulcrum.

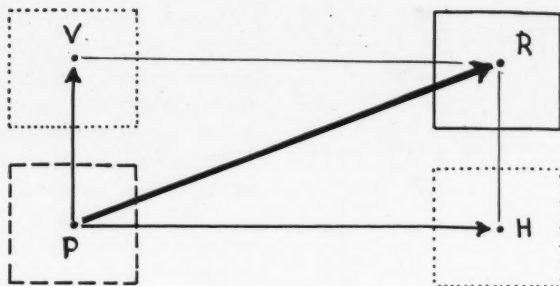
Movements Closely Approximated: Functional mandibular hinge-axis recording instruments record this functional resultant mandibular hinge-axis. When the component of translational movement for a rotational hinge-axis mandibular movement is of small magnitude, the functional hinge-axis and the mechanical hinge-axis of the mandibular hinge movement will be closely approximated. The functional hinge-axis recording instruments cannot discriminate between the pure hinge movement and the gliding translatory movement but merely record the functional hinge-axis for the resultant of the two movements.

Effective Difference Insignificant: Since the functional and mechanical hinge-axes are always so closely approximated, for any small magnitude

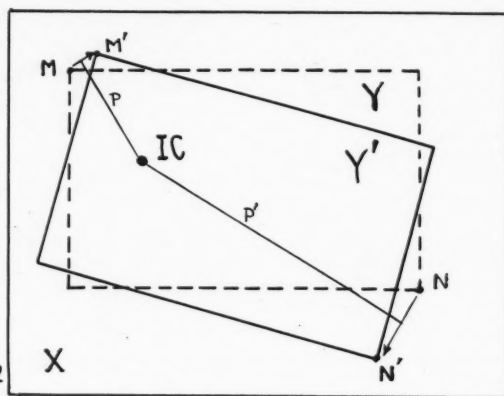
72.

The diagrammatic analysis of bodies having plane movement. A, a point on a body, P, having linear movement horizontally to H, and vertically to V. The resultant movement of the point is shown at R. This is solved geometrically by the parallelogram method. B, an angular movement of the body Y to Y' relative to the body X. The movement could be assumed to be a combined movement of the body around point M and the simultaneous translatory movement of the point M to M'. The resultant movement of point N is to point N'.

If perpendiculars P and P' are drawn from the point paths of the movements MH' and NN', they intersect at the point IC. This is the instant center for this particular combined movement. The instant center is the point at which the bodies are relatively at rest at the instant considered.



A



B

of rotational movement, the effective differences in the dental area are only theoretically debatable and of no significance from a practical standpoint.

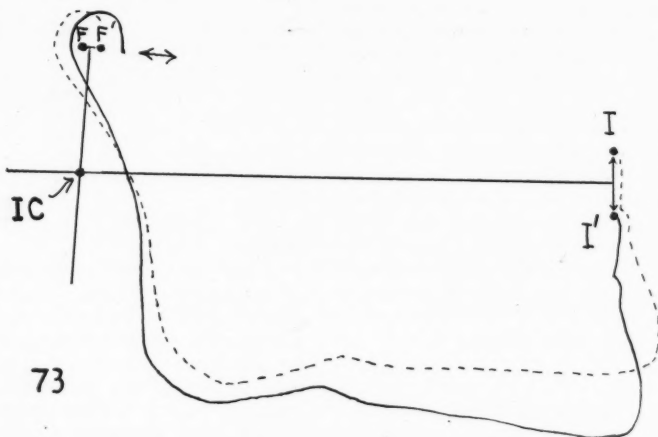
Relator Used as a Recorder

The mandibular hinge-axis relator can be used as a functional recording instrument for using the patient's mandibular hinge movements to determine the instant centers, or hinge-axis points, through which the functional hinge-axis for the movement passes. This is possible because each of the relator arms is independently adjustable.

The author does not use the relator in this fashion for the practical reasons previously mentioned. The relator was used extensively, however, as a functional device for observing and evaluating the nature of mandibular movements. In fact, the relator was originally designed and made for this purpose.

Functional Recording Device—The relator was used as a functional recording device in the following manner:

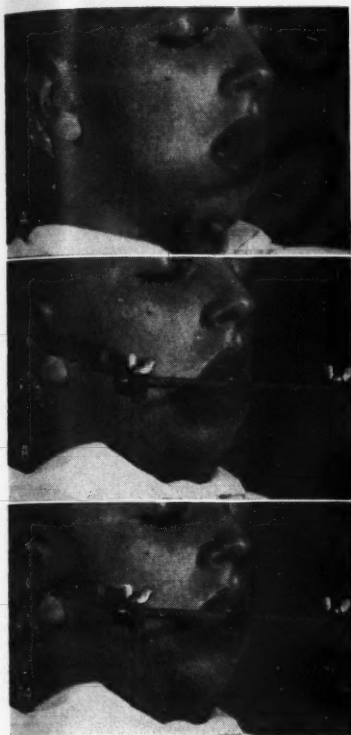
1. The handles of a set of alginate impression trays were prepared in such a manner that they could be releasably secured to the support bar of the relator in the same place the T plate is attached, when the T plate of the relator is removed. The attach-



73.

A diagrammatic figure of a resultant mandibular movement which is a mandibular movement around its mechanical hinge-axis passing through its fulcrum, F, and translatory movement of the hinge-axis itself, F to F'. The point IC is the instant center, or hinge-axis point, for the resultant movement and the point which mandibular hinge-

axis recorders determine. Obviously, the less the component of the translatory movement, the closer the IC point will be to the mechanical hinge-axis point, F. If the translatory component of movement is equal to zero, the IC point will be identical to the point F through which the mechanical hinge-axis of the mandibular lever passes.



74A.

Shows an impression on a patient in place. 74B and 74C, two different hinge positions of the mandibular movement with the relator in place. The relator shown is an earlier design which was made some time ago but mechanically equal to the relator now used and previously described.

75.

The hinge-axis extensor engaged to a relator.

76.

The rear view of an articulator not having extendable hinge-axis pins. The hinge-axis extensor is shown connecting the ends of the hinge-axis of the articulator to the hinge-axis points of the mandibular hinge-axis relator.

is an elaborate time-consuming process (Fig. 74A).

3. The relator is attached to the handle of the impression tray. Each of the arms of the relator can be independently adjusted to record the instant centers, or hinge-axis points, as dictated by the mandibular hinge movements of the patient. The other mandibular movements can also be observed for practical or academic reasons.

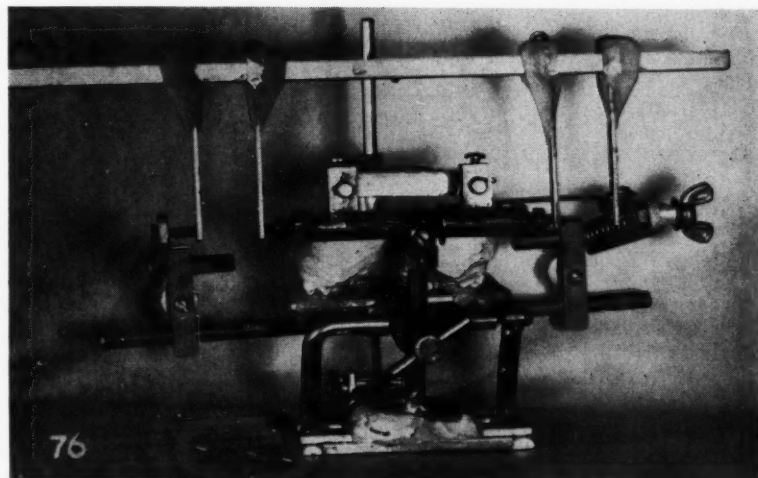
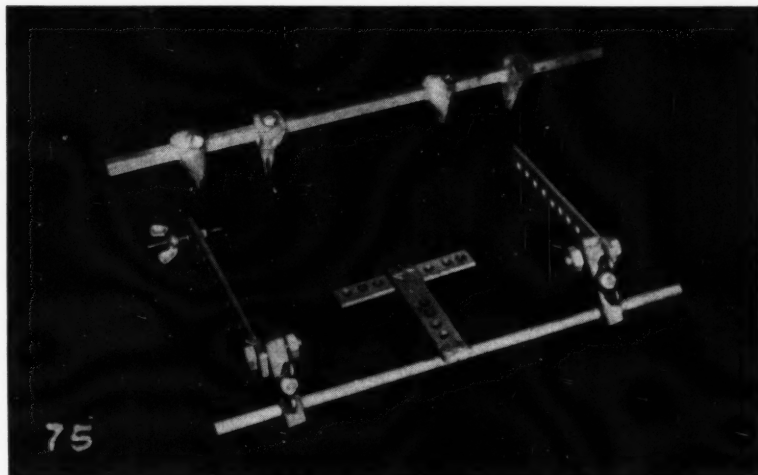
4. The functionally determined hinge-axis points are marked on the patient. The relator is separated from the impression tray and the impression is removed from the patient.

5. The relator is used in the fashion previously described for making a mandibular hinge-axis relation record for use in transferring the record to the articulator for mounting the upper cast on it.

Alternate Method—1. After the hinge-axis relation is determined with the instrument, it is removed from the impression tray and not otherwise disturbed.

2. The impression is removed from the patient and a cast is poured into the impression.

3. The relator is reattached to the tray and its impression with the poured cast still in place and the assembly is used for simultaneously transferring the mandibular hinge-axis relation record to the articulator and mounting the lower cast on to the articulator. In this way, the relation of the mandibular hinge-axis of the articulator joint is directly related to the mandibular cast. When mounting the cast in this manner the plane of orientation of the mounted cast is determined by the plane of the top of the impression tray which is leveled to be



ment is keyed so that the tray can be separated and attached again in the same relative position at all times.

2. A lower alginate impression is made on the patient. The impression is used for the clutch for stabilizing the relator to the mandible. This impression has been found to be as effective for stabilizing the recording instrument as any specially made clutch would be. This was considerably easier than making a special clutch which

parallel to the base of the articulator.

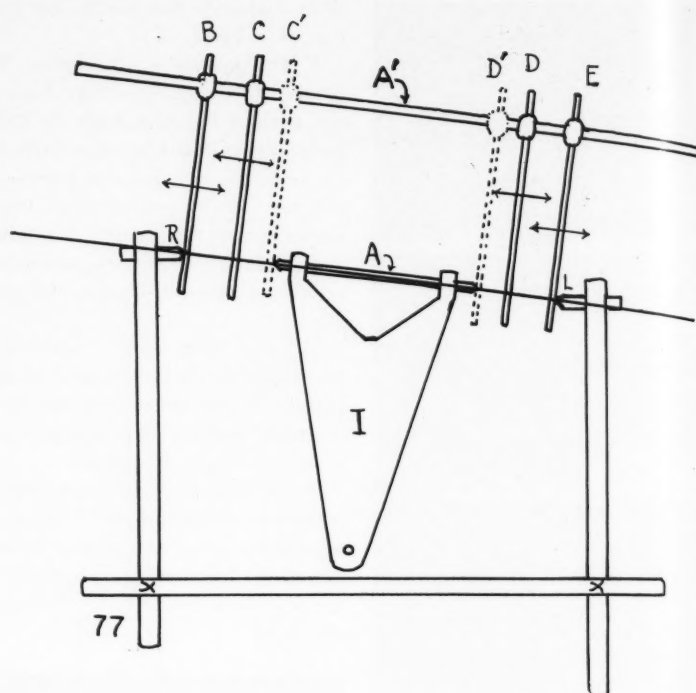
4. The upper cast is related to the lower cast with a centric relation bite record and mounted on the articulator.

Theoretically Correct—This method of relating the lower cast with respect to the hinge-axis of the articulator and then mounting the cast is theoretically more correct than the indirect method of relating and mounting the upper cast and using a bite record for relating and mounting the lower cast. It is clinically more practical, however, to relate and mount the upper cast on the articulator in the fashion commonly done.

Hinge-Axis Extender—An accessory device was evolved to make it possible to use the relator on articulators not having extendable hinge-axis pins. The device is called a hinge-axis extender. It was found to be extremely useful in the laboratory.

Description: The hinge-axis extender is basically a square rod with four arms of equal length which can slide on and be secured to the rod. The ends of the arms have holes which can engage the hinge-axis pins of the relator and the articulator. These holes are all on a single straight line parallel to the square rod.

Function of Extender Arms: The outer pair of arms of the hinge-axis extender engage the relator hinge-axis pins. The inner pair of arms engaging the hinge pin of the articulator are adjustable to be equidistant from the outer pair of arms.



77.
A diagrammatic drawing showing the operation of the hinge-axis extender. The outer arms, B and E, engage the hinge-axis points of the relator, R and I. The inner arms, C and D, are ad-

justed equidistant from the outer arms, to C' and D', to engage the ends of the hinge pin, A, of the articulator, I. The hinge-axis of the hinge pin of the articulator will always pass through the hinge-axis points of the relator.

Summary

A novel mandibular hinge-axis relator for recording the approximate relative disposition of the mandibular hinge-axis with respect to the mandible was described. The technique for using it was shown. Theoretic con-

siderations concerning the mandibular hinge-axis were discussed. The use of the mandibular hinge-axis relator as a functional recording device was also shown.

(End of Part Four)

246 Woodmere Boulevard

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MAXILLARY PROTRUSION

Treated by Labial Alveolectomy

ROBERT A. ATTERBURY, B.S., D.D.S.,* Oak Park, Illinois

DIGEST

This article presents the step-by-step technique that was used to correct a maxillary protrusion in an older person. The result of surgical reduction of the protrusion and a prosthesis was an improvement in appearance and elimination of trauma by the lower incisor teeth.

Advantages of Procedure

Alveolectomy is not always necessary, but in many cases this procedure will correct abnormalities and deformities of the alveolar ridge which would interfere with proper denture adaptation, especially if the maxillary protrusion is of the extreme variety.

Purpose—Alveolectomy consists of removal of the teeth, incision, and reflection of the covering mucoperiosteum, and surgical excision of part of the alveolar process to produce a foundation on which a more satisfactory denture can be constructed.

Procedures Employed—(1) In some cases where the anterior teeth are removed in the alveolectomy that is then performed it is only necessary to smooth the sharp margins of the alveolar process.

(2) In other cases, where there is overhanging alveolar process or protrusion, the process should be conservatively removed.

(3) Where there are multiple areas of infection, systemic contraindications, apprehension, the extraction wounds are allowed to heal for three weeks. An alveolectomy is then performed on the edentulous ridge.

(4) Reduction of the alveolar

ridge in the anterior part of an edentulous mouth is performed in a similar manner to that of surgical preparation of the ridge at the time that all the remaining anterior teeth are extracted.

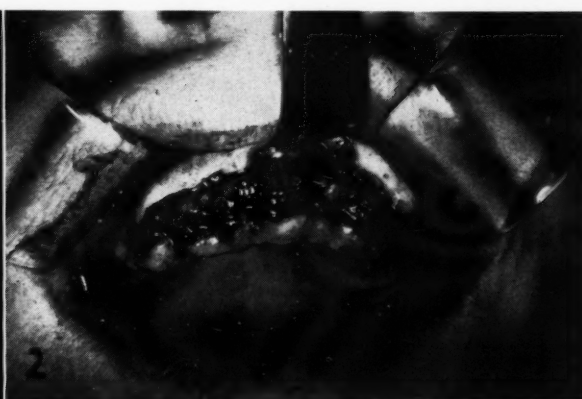
Variation in Procedure—Although these procedures are similar, there is a difference in the manner of removing the labial bony projection after the initial elevation and reflection of the mucoperiosteal flap.

1. The edentulous case requires that the rongeur be placed correctly, one blade on the top of the ridge and the other blade under the undercut, cutting off the protruding bone.

2. Where an alveolectomy is performed at the time teeth are removed, the extensive alveolar labial plate is usually removed by means of the rongeur inserted with one blade inside and the other outside of the alveolar sockets and the projecting alveolar septa cut away until the projection has been eliminated. In either procedure no more osseous structure should be removed than is essential.



1. Shows a protrusion of the maxilla with the lower anterior teeth occluding with the palatal mucosa.



2. Shows the mucoperiosteum being reflected and retracted.



3. Shows the mucosa being trimmed to allow coaptation and approximation over the newly created alveolar ridge.



4. Shows a lateral view of the tissues approximated and held with continuous locked 000 black silk suture. Buccal incision also closed with interrupted 000 black silk suture.

Case Report

In the following case the technique was of considerable importance to the patient, not only because of her appearance but also because of the existing trauma to the palatal mucosa by the lower anterior teeth. It had been explained to the patient that the entire procedure could be done in one operation, but she had been advised by her family physician to have the surgery done in two steps.

History—A 49-year-old woman was referred to the author with a diagnosis of maxillary prognathism. She stated that she had had a marked maxillary protrusion since birth. A brother and sister also had similar conditions and she thought her condition was hereditary. Her dentist had removed the remaining upper anterior teeth two weeks previously and she now presented for correction of the maxillary protrusion to enable her to look better, feel better, and participate in social activities with an improved profile.

Examination—A protrusion of the maxilla was evident. The lower anterior teeth occluded with and had become an irritant to the palatal mucosa (Fig. 1). An alveolectomy was advised.

Surgery

An alveolectomy and an alveoplasty were performed using a local anesthetic. The following steps were taken:



5. Frontal view shows tissues approximated and closed with 000 black silk continuous locked suture.

1. Bilateral vertical incisions were made in the missing bicuspid areas on the labial aspect of the upper jaw and joined.

2. The mucoperiosteum was detached from the bone, reflected, and retracted (Fig. 2).

3. The labial plate was removed with a rongeur forceps. The maxillary protrusion was thus eliminated, but the lower incisors were still touching the palatal mucous membrane. The latter was detached, undermined, and reflected, and a part of the palatal alveolar plate was removed, creating sufficient space be-

tween the incisors and the palate to allow for the construction of a denture.

4. The mucosa was replaced on both the labial and palatal sides and trimmed to allow coaptation and approximation over the created new alveolar ridge (Fig. 3).

5. The tissues were held together with a continuous locked No. 000 black silk suture (Figs. 4 and 5).

Postoperative Measures

The patient made an uneventful recovery. The sutures were removed on (Continued on page 180)

NITROUS OXIDE-OXYGEN ANALGESIA

for Modern Dentistry—

Part Two

HARRY LANGA, B.S., D.D.S., New York

DIGEST

This is the second and last installment of an article on the uses of analgesia in modern dentistry. In this part the author discusses the psychologic aspects of the introduction of analgesia to the patient and includes a valuable commentary on the basic positive and negative factors involved in this technique.

Improvements in Analgesic Techniques

Purity of Gases—Impurities and moisture from the gases were a problem until ways were found to remove them and to ship the gases in sturdy compressed gas cylinders (Fig. 22). Many dentists used to make their own nitrous oxide. This crude process re-

sulted in gases that created nausea and vomiting and impelled many dentists to discard the use of this modality. Purity of gases is now universal in this country, and presents no problem.

Machines—Formerly machines were not as finely calibrated as they are today (Fig. 23). Control over the depth of analgesia was impossible, symptoms of excitement were excessive. Modern machines have been

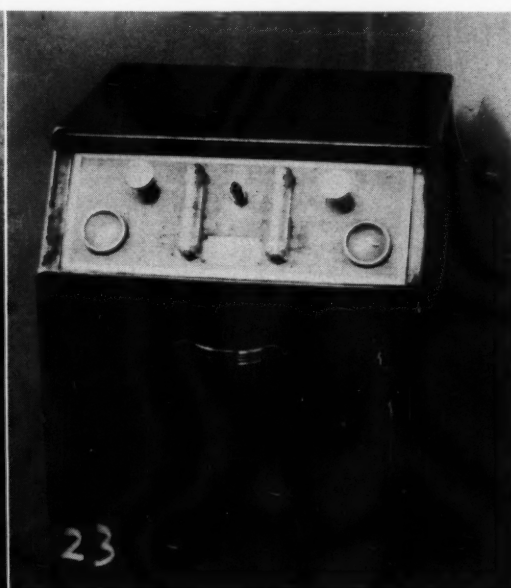
streamlined and modified so that the operator has full control over the proportions and rate of flow of the gases (Figs. 24 and 24A).

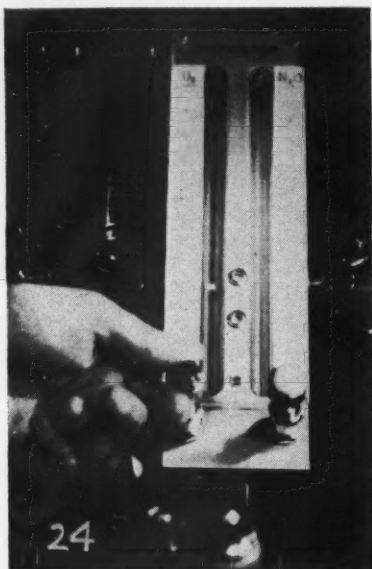
The Main Objective—A misconception which not only deterred many dentists from using analgesia, but which also prevented them from properly evaluating a successful administration of analgesia was that the main reason for using analgesia was to eliminate physical pain. It is now clearly recognized that the main use of analgesia is to eliminate fear of pain, fear of the dentist, and of the dental experience.

Analgesic Stage vs. Maintained Analgesic Stage—It is possible to determine the precise condition of the patient: the analgesic stage in the administration of general anesthesia is attained and passed by with high concentrations of nitrous oxide, relatively low proportions of oxygen, and a

22. *Modern compressed gas cylinders ensure purity and ease of handling of anesthetic gases.*

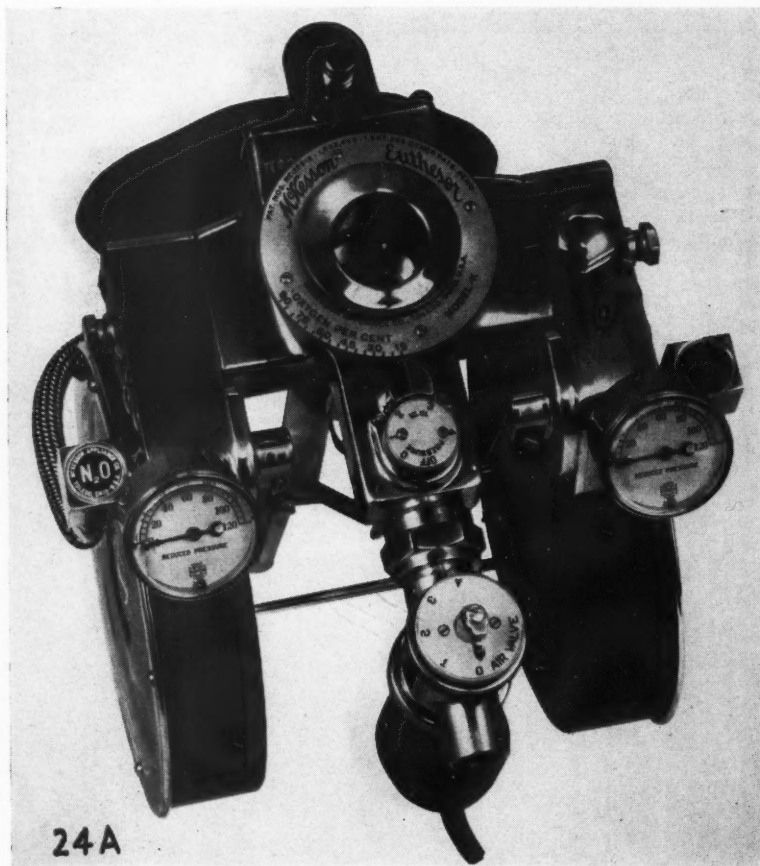
23. *Machines were formerly not as finely calibrated as at present and did not permit adequate control.*





24.
Foregger analgesia machine.

24A.
McKesson analgesia machine. Modern gas machines afford the operator full control over the proportion and rate of flow of the gases.



high rate of flow. The anesthetist wishes to pass through this stage as rapidly as possible. In analgesia a relatively low concentration of nitrous oxide is used, an extremely high concentration of oxygen, and a much reduced rate of flow. In this manner patients can be maintained in the analgesic state for hours, without being permitted to pass into a deeper stage.

Importance of Planned Introduction

A sound psychologic approach to the patient at the first administration is important because with an initial failure a second opportunity to convince the patient is seldom accorded. The introductory administration does not take more than ten minutes and is necessary only once with each patient. The time spent is more than compensated by the many time-saving benefits of analgesia at subsequent visits.

Patient Confidence Obtained—The concept that proper technique and

equipment is all that is necessary to obtain ideal results is fallacious. With experience, a natural air of assurance and self-confidence can be developed by the dentist and can be transmitted to the patient. Nearly always failure to obtain the cooperation of the patient is due to faulty presentation of analgesic procedure before the first administration.

Value of Analgesic Experience—

In teaching analgesia to dental practitioners every member of the class is required to be an analgesia patient. It is only by personal experience of the sensations that are undergone by the patient, that this experience can be fully realized. It is also important to administer analgesia to the dental assistant so that she can explain the technique to the new patient with assurance.

Gradual Introduction Preferred—

The relationship created between the patient and dentist is of great importance; it is therefore wise not to administer analgesia at the first appointment with a new patient. This is not always possible, since emergency cases often require special measures. For the average patient, however, the first visit should be devoted to taking the necessary radiograms, study models, and history.

Taking the History: Information as to the patient's past reaction to dental treatment is revealed during the taking of the history and his receptivity to the idea of analgesia will be indicated.

Patient Relationship Established: At this first visit, the patient and dentist become acquainted. An excellent opportunity is provided for the dentist to project the sympathetic aspects of his personality while at the same time he begins to educate the patient in the advantages of analgesia.

Choice of Patient—The inexperienced dentist should choose for his first subject a patient who is cooperative and relatively calm, a patient who has had nitrous oxide-oxygen anesthesia previously and found it pleasant, or one who has such an extreme aversion to local anesthetic injections that any substitute will be welcomed. Early success will encourage the op-



erator in the use of analgesia and increase his self-assurance. Later, he will be able to treat more difficult patients with greater ease and more possibility of success.

Basic Factors Involved

When the patient has been selected the dentist should note the following facts: (1) analgesia differs from other procedures used in dentistry in that a prepared introduction to the patient is essential for success, and (2) the initial administration of analgesia will determine its success or failure.

Elimination of Apprehension—Analgesia should be presented to the patient as a procedure that has been used for many years. More and more

25.
The operator should first experience the symptoms of analgesia himself.

26.
If the assistant likes analgesia she will enthusiastically persuade the patient to use it.

patients are using it and recommending it to their friends. Describe the sensation the patient will experience under analgesia as a means to in-

27.
The patient about to receive his first administration of analgesia. Seat him comfortably in the chair.

28.
Before the initial introductory administration of analgesia, tell the patient everything that will be done, and describe everything he will feel.

spire confidence: (1) he will feel a warm comfortable glow throughout his body, and perhaps a tingling sensation in his toes or his fingertips or a slight tingling sensation in his lips; (2) he will feel warm and safe, and light as a feather; his surroundings will recede farther and farther away and the entire experience will be pleasant; (3) it may be likened to a mild, pleasant intoxication; (4) the procedure is so safe that it is routinely used on young children; (5) the onset of the symptoms will be gradual and gentle; (6) the patient will not go to sleep at any time, but will be able to hear, see, talk, and know what is going on about him in a pleasant, detached sort of way.



29.

Tell the patient he may readjust the nasal inhaler for his complete comfort and ease of breathing.

Sleep Does Not Occur—Most new patients fear going into complete anesthesia, believing that the longer they are under analgesia, the sleepier they become. They should be informed that analgesia can be maintained at an even level for hours at a time without the possibility of sleep. There will be no after effects, the patient will be clearheaded and normal, and will be able to resume his daily routine immediately.

Summary of Positive and Negative Aspects

The following measures will be helpful:

1. The dentist should have the experience of analgesia himself (Fig. 25).

2. The dental assistant should have the experience (Fig. 26).

3. A cooperative subject should be selected for this first analgesic patient.

4. Describe and predict the symptoms to occur in a favorable way.

5. Stress the advantage of safety.

6. Mention that there will be no sudden interruption or occurrence of any kind.

7. Tell the patient that he will not fall asleep.

8. Inform the patient that there will be no after-effects.

9. Seat the patient comfortably in the chair.

10. Start a flow of 100 per cent oxygen before adjusting the nose-piece (Figs. 27 and 28).

11. Tell patient he may readjust the nose-piece (Fig. 29).

12. Direct the patient to breath in and out through the nose.

13. Explain how the patient can thus control the analgesia.

14. Speak softly and project pleasant thoughts. Converse only with the subject.

15. Oxygenate the patient thoroughly.

Contingencies to Avoid—1. Do not introduce analgesia to a new patient at his first visit.

2. Do not describe analgesia as a new technique.

3. Do not try to accomplish too much at the first visit.

4. Do not give too much nitrous oxide.

5. Do not keep the patient under analgesia too long at a time.

Comparison of General Anesthesia and Analgesia

The points of similarity between analgesia and general anesthesia are the following (1) The same appa-



TABLE 1
Chart Showing That Analgesia And General Anesthesia Are Distinct and Separate Procedures

General Anesthesia	Analgesia
1. Patient is put to sleep.	1. Patient is awake.
2. A certain amount of risk is entailed.	2. No risk involved; there has never been a fatality with the use of analgesia.
3. Percentage of oxygen is somewhat limited (when only N ₂ O and O ₂ is used).	3. A high per cent of oxygen used at all times.
4. Operator can be guided only by signs of patient.	4. Since patient is awake, and can answer questions, it is easy for the operator to judge the patient's condition.
5. Usually a one-time procedure.	5. Usually used routinely at almost every dental visit.
6. An infrequent, special event; therefore a certain amount of nervous tension and apprehension is involved.	6. After initial introductory administration, it becomes routine for the patient and eliminates nervous tension, fear, and apprehension.
7. Special preparation of patient is necessary: (a) premedication, (b) directions for eating.	7. No special preparation of patient: (a) no directions for eating (except in certain exceptional cases).

TABLE 2

Analgesia Dosage Chart For Foregger Analgesia Machine

	Oxygen	Nitrous Oxide	Position of Rebreathing Valve	Position of Air Valve*	Duration of Administration
Introductory administration	1000 cc	1—1.5 Lt.	wide open	1/6 open	5 minutes
Average adult patient	1000 cc	1.5—4 Lt.	wide open	1/6 open	unlimited
Average child patient	1000 cc	1.5—3 Lt.	wide open	1/6 open	1/2 to 1 hour
Resistant patient	1—1.5 Lt.	3—7 Lt.	closed	1/6 open	unlimited
Administration during hot, humid weather	1000 cc	1.5—3 Lt.	wide open	1/3 open	1/2 hour

*Air valve may be opened more to lighten the analgesic effect. It should never be completely closed.

tus for administration may be used for both, (2) the same gases are used, (3) a modification of the first or analgesic stage of general anesthesia is used, (4) terminology may be confusing, analgesia and anesthesia having somewhat the same sound.

Definition—An amplified definition of analgesia is the following: A good analgesic is one which not only raises pain threshold without loss of consciousness, but which also changes and improves the subject's attitude toward pain.

Difference Noted—There are vast differences between analgesia and general anesthesia, with nitrous oxide and oxygen: (1) the most important difference is that under general anesthesia the patient is unconscious. Under analgesia the patient is conscious and able to cooperate with the operator, and follow directions. (2) The cough reflex is present at all times, so that throat packs or mouth packs are not necessary. (3) Restraining straps or pharyngeal airways are unnecessary and contrain-

dicated. Mouth props are also unnecessary. (4) The patient in the analgesic state keeps his mouth open voluntarily. If he closes his mouth and does not open upon direction of the operator, he is too deep in analgesia.

Simple Test—If the patient does not respond when asked to, he is approaching the excitement stage.

Mouth Breathing—In analgesia the nasal inhaler is not held against the patient's face. This is done in administering general anesthesia, to cut out

TABLE 3

Analgesia Dosage Chart for McKesson Euthesor (also applicable to McKesson Nargraf)

	Millimeters of Pressure	Percentage of O ₂	Percentage of N ₂ O	Position of Air Valve	Position of Exhaling Valve	Duration of Administration
Initial, introductory administration	1	95%	5%	closed	0	5 minutes
Average adult patient	1—2	90%	10%	closed	0	unlimited
Average child patient	1	95—90%	5—10%	closed	0	1/2 hour
Resistant patient	2.5—5	85—75%	15—25%	closed	0	unlimited
Administration in hot, humid weather	1	95—90%	5—10%	closed	0	1/2 hour

atmospheric air. Analgesia is not applied with a leak proof system. It is not advisable to eliminate air, even if it were possible. Since the patient's mouth is open and no mouth inhaler is used, there is always a certain amount of mouth breathing. Holding the nasal inhaler against the patient's face is uncomfortable to the analgesia patient, and is unnecessary.

Oxygen Percentage High—When general anesthesia with N_2O and O_2 alone is administered the percentage of oxygen is somewhat limited. With analgesia percentages of oxygen as high as 95 per cent are used. This, together with the fact that the operator is dealing with a conscious patient, eliminates any possibility of personality change, brain damage, or fatality.

Safe Procedure—There has never been a fatality with the use of nitrous oxide and oxygen as analgesia. This statement is based on the experience of all dentists who have used analgesia in the past 50 years and on the experience of the author. This com-

prises well over 80,000 administrations over a period of 25 years. In addition, postgraduate teaching of analgesia to hundreds of dentists in the past ten years further demonstrates that the administration of analgesia is a completely safe procedure.

Level of Analgesia Easily Determined—During anesthesia the operator must be guided by the signs of the patient. With analgesia, since the patient is conscious and can answer questions, he can express his reactions. By the way he responds or fails to respond to a question put to him the level of analgesia reached can be easily ascertained.

Routine Procedure—The administration of anesthesia is usually a single procedure for a patient. Seldom are a series of anesthesia inductions necessary. The administration of analgesia, however, once it is introduced to the patient, becomes a routine procedure, routinely used at almost every visit to the dentist.

Nervous Tension Absent—The administration of anesthesia, being an

infrequent and special event and being most often associated with oral surgery, creates a certain amount of emotional tension and apprehension in the patient. Analgesia, which becomes routine after the initial introductory administration, and which may be used for all dental procedures, eliminates nervous tension, apprehension, and fear.

Analgesia Its Own Premedication—For the administration of anesthesia special preparation of the patient is necessary. Premedication may be required and dietary directions may be given. For analgesia no such routine directions are indicated. In infrequent cases, eating directions are necessary.

Recuperation Period Brief—After an anesthesia administration, a time-consuming period of recuperation is necessary. In analgesia, one or two minutes of oxygenation is all that is necessary to enable the patient to resume activity.

250 West 57th Street

Why Eliminate Periodontal Pockets?

RAOUL H. BLANQUIÉ, D.D.S.

Two Problems in Diagnosis

In the appraisal of periodontal disease two problems are present: (1) the arresting of disintegrating changes within the supporting structures of the teeth, with the objective of prolonging the life and function of the dental organs; (2) the eradicating of infective processes within the diseased periodontium which comprise the most common oral menace to general health.

Periodontal Disease Formerly Minimized—The loss of any teeth is always a serious matter but secondary in importance to that factor which is capable of affecting the entire organism. In the not too distant past, periodontal disease was generally overlooked as either a potential or an

active focus of infection or was subordinated in severity to those infections related to periapical involvements.

Periodontal Disease Serious Form of Infection—The realization is gradually materializing that periodontal disease overshadows all other forms of oral infection in degree of prevalence, potentiality, and severity.

Summary

The subject of periodontal disease may be summarized by the following basic points:

1. The physical characteristics of the periodontal pocket render it the ideal medium for bacterial propagation leading to infective changes within its confines. The elimination of the

pocket, resulting in a shallow gingival crevice, affords the maximum insurance against the possibility of reinfection.

2. Periodontal disease, as a potential or active focus of infection, must be considered at all times as a serious menace to general health. It follows that all infective processes attending its degenerative course must be removed to ensure a return of all supporting tissues to a state of health and function.

These objectives may best be achieved through the complete and thorough elimination of the periodontal pocket.

Adapted from *Paradontologie* 13: 11 (April) 1959.

The Use of MEDAPRIN® in Oral Surgery:

A Preliminary Report

THALES THEODORE, D.D.S., Dayton, Ohio

D I G E S T

This preliminary report is based on the conclusions obtained from four month's use of the drug in selected dental situations. The results were so satisfactory that the agent is described as a preparation with a wide potential for use in dental practice.

Composition of Drug

Medaprin® is a tablet containing a combination of methylprednisolone (Medrol®), acetylsalicylic acid, and calcium carbonate. It combines an anti-inflammatory agent, a proved analgesic, and an antacid. Each tablet contains Medrol 1 milligram, acetylsalicylic acid 0.3 gram, and calcium carbonate 200 milligrams.

Effectiveness of Agent—Since the demonstration of the therapeutic usefulness of cortisone and adrenocorticotrophic hormone, research in the pharmaceutical industry and in medical centers has been directed toward the development of more effective adrenal steroids. Medrol has a greater anti-inflammatory activity than any of the previously available adrenal steroids: cortisone, hydrocortisone, prednisone, and prednisolone. It has, also, revealed an enhanced split between its anti-inflammatory activity and its mineralocorticoid activity. This is demonstrated by its relative lack of side effects as compared with other adrenal steroids. Thus, effective treatment with Medrol is obtained with smaller doses and is accompanied by fewer side effects than effective treatment with the other steroids.

Combination Developed—Medrol makes available to the dental profession a well-tolerated therapeutic agent. Through its anti-inflammatory action, discomfort accompanying tooth extractions, root resections, and the fitting of immediate dentures can be reduced or eliminated. Additional medication, however, is usually needed to control pain. This need for additional medication for the relief of pain led to the development of Medaprin, which combines Medrol with an analgesic.

Material and Methods Used

For four months, Medaprin was used in selected cases. Patients requiring extraction of third molars, root canal therapy, routine extractions, and similar procedures were treated postoperatively with Medaprin. These patients were observed closely to evaluate the usefulness and the potentialities of this new drug combination.

Types of Cases Treated—Of fifty-two patients treated with Medaprin, thirty-five had extractions of partly, or wholly, impacted molars. Fifteen patients had extractions of partly, or wholly, impacted molars. Fifteen patients had root resections and simple extractions. Two patients were fitted with immediate dentures.

Amount Prescribed—In all cases the dosage of Medaprin was the same. The patients were given *two Medaprin tablets immediately following surgery. They were then instructed to take one Medaprin tablet every four hours for three days.* Initially no additional medication was prescribed, except that patients requiring root resections were

given effective antibiotic therapy for five days.

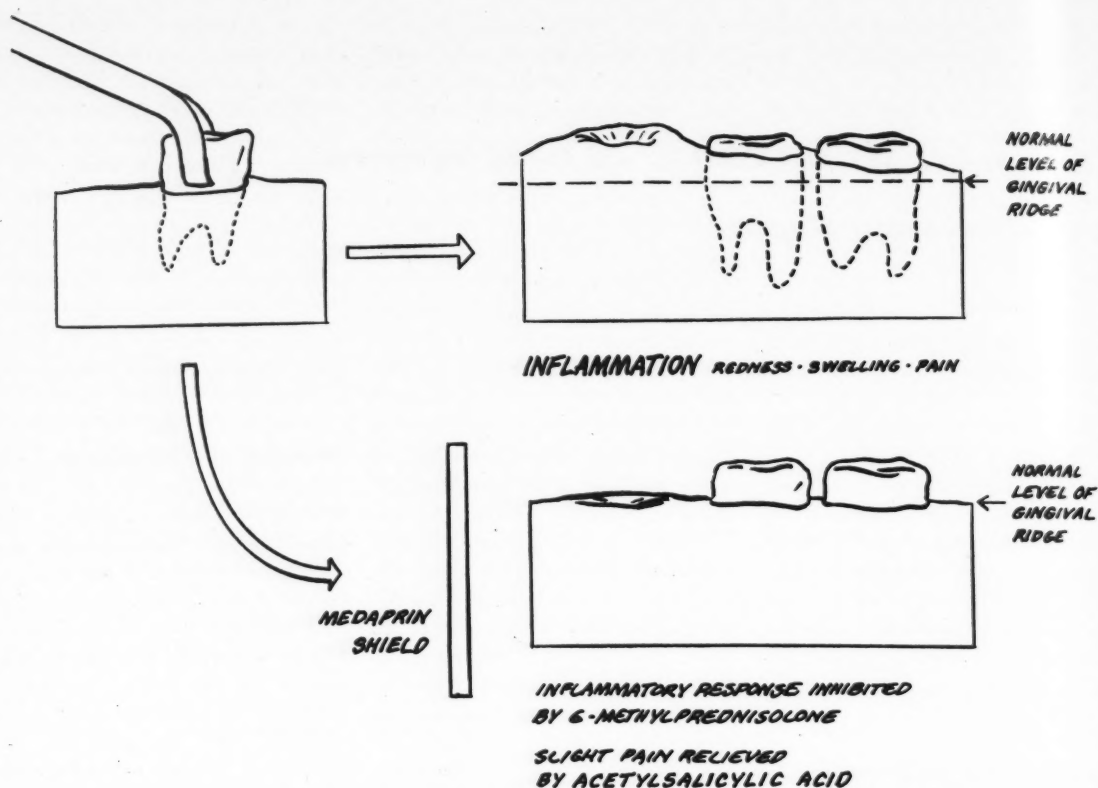
Results of Treatment

None of the patients with root resections or simple extractions complained of more than slight tenderness, and this subsided after the first postoperative day. There was no significant swelling or pain, and no patient in this group required supplementary analgesia. All but two of the patients were able to masticate food without difficulty after the first day postoperatively. Healing was not retarded and there was no edema of the gingiva or of the lip. Two patients complained of drowsiness; otherwise there were no side effects.

Postoperative Results Compared—After apicoectomies two years previously three of these patients developed excessive local edema and complained of severe pain. The swelling and pain were evident from four to seven days. Treated postoperatively with Medaprin, after similar surgery these patients were free of symptoms.

Supplementary Analgesia May be Required—The performance of Medaprin in the postoperative treatment of patients subjected to removal of impacted molars was slightly less satisfactory. Of thirty-five patients, four reported slight swelling for twenty-four hours and six required supplementary analgesia for forty-eight hours.

Successful Use in Exodontia—The two immediate denture cases, one involving the extraction of eight teeth and the other of twelve, had excellent results on the Medaprin regime. Each of these patients reported to work on the day after surgery. They were able to masticate food after two days. Although reporting some tenderness,



neither of these patients experienced significant swelling or pain.

Discussion

Considering the outstanding results reported Medaprin is considered an ideal formulation for use following dental procedures expected to cause swelling and pain.

Based on the record of preliminary observations, it is suggested that Medaprin can be expected to give satisfactory results in the following situations: multiple extractions, im-

mediate dentures, root resections, and removal of impacted third molars or difficult extractions attended by swelling in general. The inflammatory reaction to trauma is curtailed so that swelling and pain are reduced; and, secondarily, there is a reduced need for the use of narcotics.

In the presence of chronic or acute infection, effective systemic antibiotic therapy is necessary. This should be continued for at least five days.

Persons suffering from tuberculosis, renal insufficiency, peptic ulcer,

acute psychosis, Cushing's syndrome, and herpes simplex keratitis should be allowed to use Medaprin for only a few days, if at all.

Summary and Conclusions

The results of the use of Medaprin postoperatively in fifty cases requiring extractions and root resections and in two cases fitted with immediate dentures are presented and discussed.

It is concluded that Medaprin is a highly useful combination tablet.

2300 Far Hills Avenue

Maxillary Protrusion

Treated By Labial Alveolectomy

(Continued from page 172)

the fifth postoperative day and on the next day her dentist took an impression and adapted a suitable denture. The patient's profile was greatly improved, speech not impeded, and she was able to occlude her lips without strain.

Comment

The patient's maxillary protrusion presented a deformity which was of considerable importance to her, not only because of her appearance but also because of the continuous trauma to the palatal mucosa by the lower incisor teeth.

Her age did not predispose to orthodontic intervention, and the only alternative was surgical reduction of the maxillary protrusion and a prosthesis.

1011 Lake Street

The EDITOR'S Page

Most of the painful conditions that are associated with dental disease are quite clear-cut. A pulp involvement is usually accompanied by sensitiveness to hot and cold and with a rather definite localization. Occasionally there is a referred pain from pulpal inflammation that makes diagnosis more difficult. The pain from periodontal disease is more often a soreness than a sharp ache; it is discomfort, tenderness, uneasiness—rather than bright and excruciating pain.

There are, however, pains in the facial zones that may present a complex diagnostic issue. Some of these pains are vague, persistent, and ill-defined and cause confusion and concern among diagnosticians. The syndrome of atypical face pain has been clearly described by three clinicians from the Mayo Clinic:¹

"Atypical face pain does not refer to trigeminal neuralgia, or pains caused by obvious disease of the teeth, throat, nose, sinuses, eyes, or ears. This leaves, then, a group of conditions characterized by pain that is 'deep', poorly localized, and vaguely described by the patient. The pain may be felt in regions supplied by the fifth and ninth cranial nerves and the second and third cervical nerves. The distribution of the pain is 'unatomic,' in that it may involve portions of the sensory supply of two or more of these nerves and may cross the midline. In general, this pain is constant and endures for long periods, that is, weeks to years. Trigger zones are lacking. Patients often describe the pain as boring, drawing, pressing, pulling, burning, or aching."

Among 100 patients who were studied at the Mayo Clinic for their atypical face pains the diagnoses fell into these three categories:

1) *Psychogenic*—In 53 cases the difficulties were finally ascribed to psychic illness such as depression, hysteria, or schizophrenia.

2) *Organic*—In 33 patients the pains fell into

these five groups: a) vasodilating face pain; b) dental disease; c) neuritis; d) neoplasms; e) miscellaneous conditions (acromegaly, thyroiditis, temporal arteritis, cerebrovascular disease, syphilis).

3) *Indeterminate*—In 14 patients neither psychic nor physical factors were uncovered and the cause of the pain remained unknown.

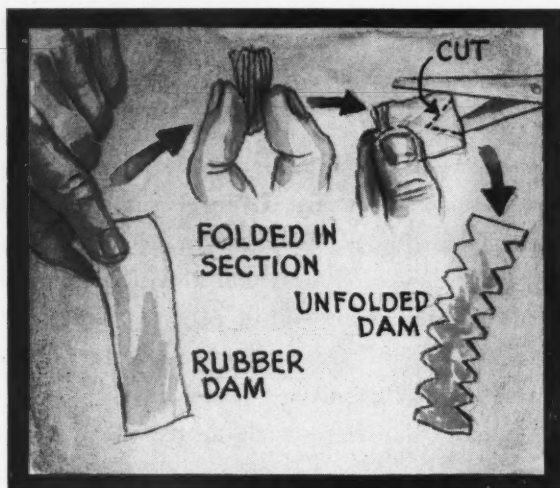
Of particular interest to the dentist is the fact that atypical face pain may precede *objective* evidence of dental disease:

"The face pain proved to be caused by previously unrecognized dental disease in eight patients (one man and seven women). In each instance, the pain was unusual and objective evidence for dental disease was lacking during the early part of the illness. The pain was described as a constant ache in the face but not the teeth by four patients and as a severe but intermittent ache by four patients. Two patients noted that hot or cold foods or liquids would increase the pain. Spontaneous remissions of pain were noted by six of the patients. Seven of them experienced some relief with the use of ordinary analgesics.

"In general, the pain was poorly localized; in no case was it localized to the offending tooth until late in the course of the illness. Physical examinations and roentgenologic studies early in the illness gave normal results. In five patients, the final diagnosis was pulpitis, and the pain was relieved by extraction of the tooth. Three patients had causalgia of the mandibular nerve after dental extraction. All efforts failed to relieve the pain."

The person who suffers from face pain that defies diagnosis may make the rounds from orthodox practitioners and end in the "den" of some quack. Even among the most ethical dentists and physicians the anxiety of the patient may force the practitioner to do *something*. The Mayo clinicians in their commendable tradition suggest that "cautious conservative treatment and continuous observation are the best means to care for these patients."

¹Rushton, Joseph G.; Gibilisco, Joseph A.; and Goldstein, Norman P.: Atypical Face Pain, JAMA 171:545 (Oct. 3) 1959.

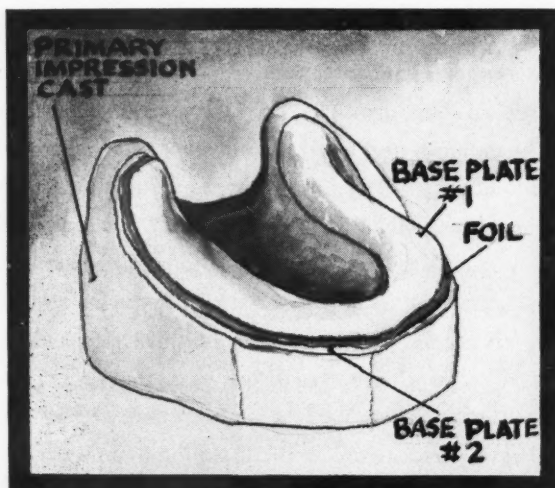


Clinical and Laboratory

Surgical Drain

S. M. Dooreck, D.D.S., Brooklyn, New York

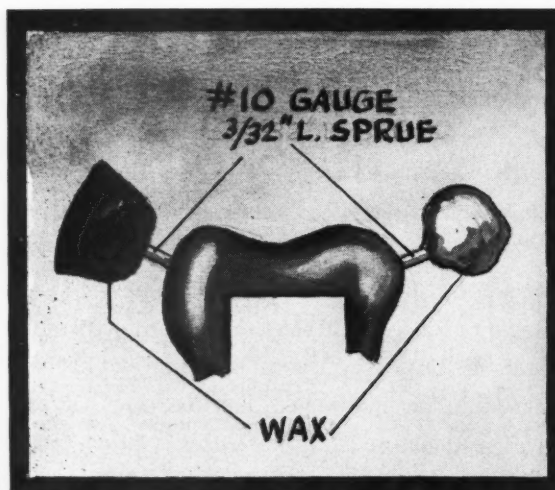
1. Where drainage is indicated in an oral surgical condition use a notched piece of sterile rubber dam. The notched drain will not be displaced from the wound.



Simplified Secondary Impression Tray

Bruce D. Martenson, D.D.S., Jamestown, New York

2. Adapt a piece of aluminum foil between two baseplates. The lower baseplate is used as a bite block. The upper for the secondary impression tray.



Controlling Shrinkage of MOD Inlays

George F. Eisenbrand, D.D.S., Wilmette, Illinois

3. To minimize shrinkage of large castings attach a ball of wax to the pattern opposite the sprue.

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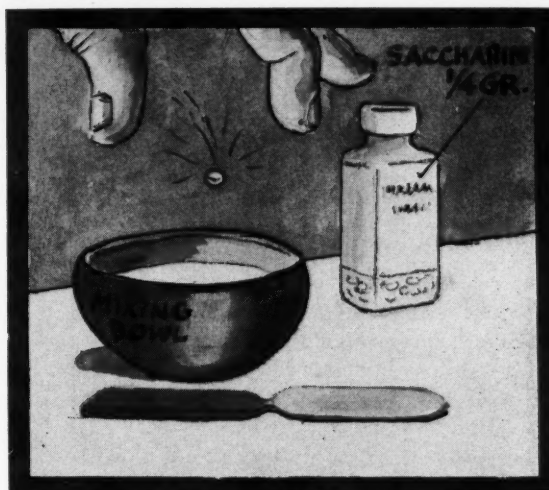
You do not have to write an article. Furnish us with rough drawings or sketches, from which we will make suitable illustrations; write a brief description of the

SUGGESTIONS . . .

Alginate Impressions

S. Traunstein, D.D.S., Brooklyn, New York

4. To improve the taste of an alginate impression dissolve a quarter-grain saccharin tablet in the water before mixing the impression materials.

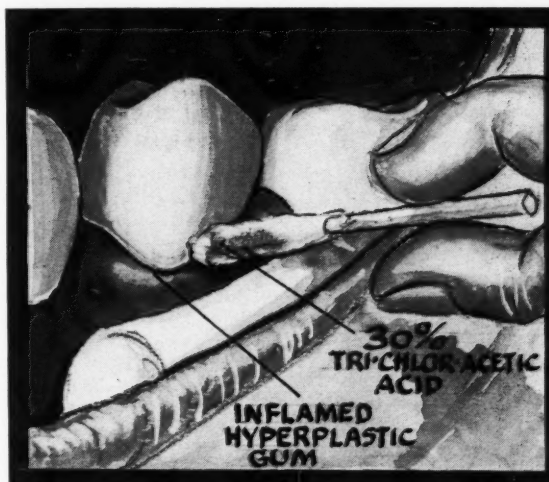


4

Crown Preparation

Julius G. Godwin, D.D.S., St. Louis, Missouri

5. To shrink and toughen the soft tissue before crown preparation apply a solution of 30 per cent Trichloroacetic acid several days before the procedure.

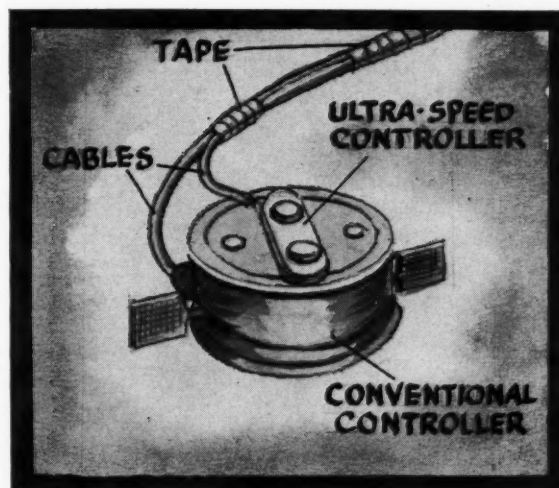


5

Reduction of Clutter Around Foot Controls

Bernard H. Waltman, D.D.S., Brooklyn, New York

6. Tape the cables of the ultraspeed equipment together and place the foot control on top of the conventional controller.



6

technique involved; and jot down the advantages of the technique. This shouldn't take ten minutes of your time. Turn to page 192 for a convenient form to use.

Send your ideas to Clinical and Laboratory Suggestions Editor, DENTAL DIGEST, 708 Church Street, Evanston, Illinois.



Adult Diabetes

Adult diabetes usually has an insidious onset after age forty. The disease is often without demonstrable symptoms but is discovered by accidental glycosuria supported by abnormal blood sugars. Clinically it is characterized by ease of control and absence of ketonemia and ketosis. Most frequently, it is found in the overweight person with a hereditary history of diabetes.

Early diagnosis is important so that the best practical control may be initiated. If this is neglected deterioration of the patient usually takes place within the second decade of the existence of the disorder. The so-called "severity of the diabetes" generally means its ease or resistance to control methods. It does not influence the tendency toward arterial deterioration if such control is not accomplished as early as possible and maintained at a favorable level.

Late diagnosis and poor control lead to arterial damage throughout the body, affecting all organs and resulting clinically in premature nephritis, coronary heart disease, premature cerebral vascular accidents, partial to complete blindness, loss of limbs or a portion thereof, and a variety of neuropathies. Without treatment, the diabetic child will deteriorate and die in ketosis within six to nine months. The older person will proceed to "precocious senility" and have his life cut short.

Approximately three per cent of the population has the disease at some period in life. The incidence increases with advancing years, particularly in those with unfavorable heredity and those who have become overweight. In youth, a single urine specimen taken one hour after a sizeable meal and then confirmed by blood sugar determinations is usually adequate for diagnostic study. In the older person, however, a blood sugar taken one hour after a meal may be necessary.

At the present time there is no known cure for the disorder. There are three rather effective methods of control or treatment. These are (1)

MEDICINE

and the Biologic Sciences



diet alone, (2) diet and oral medication, and (3) diet and insulin. Absolute and perfect control is probably not possible but it is well recognized by authorities that the best odds for the prevention of complications and an average survival in life can only be attained by those who are willing to follow the rules carefully. Some studies have been made in the use of oral medications. In some cases these are of great value. There are relatively few side effects. Orinase® appears to be effective in selected patients and can be used without misgivings.

Rippy, Edwin L.: *Diabetes Mellitus*, *Med. Times* 86:1475-1482 (December) 1958.



The Salicylate Problem

The main reasons for the extent of this problem are the widespread use of acetylsalicylic acid, the extreme toxicity of methyl salicylate, and the public's unawareness of the toxicity of these substances.

When a child has accidentally in-

gested a salicylate product, treatment should be started as soon as possible. In all cases the stomach must be emptied promptly. Mild intoxication can be remedied by this procedure alone. Methyl salicylate delays stomach emptying. Therefore gastric lavage may be carried out as long as 4 to 6 hours after ingestion. If gastric lavage is performed sodium bicarbonate should not be used, since it enhances salicylate absorption from the gastrointestinal tract.

It is imperative that the warning "keep out of reach of children" be heeded at all times. Also the similarity of some salicylate containers to cough medicine containers should be carefully noted and steps taken to avoid accidents.

The practice of some physicians in advising hospitalization, if only for overnight observation, in most cases of salicylate ingestion whether or not symptoms have occurred, emphasizes the necessity of prompt vigorous therapy and close observation in all instances of salicylate overdosage. The latter is especially important in methyl salicylate poisoning where the usual asymptomatic period after ingestion makes prolonged observation mandatory.

In acute salicylate poisoning water is lost from the body by diaphoresis, hypernea, vomiting, and diarrhea. This loss results in impaired renal function and decreased salicylate excretion. The hypoprothrombinemic effect of salicylates, which can be corrected by the administration of vitamin K is well known.

The treatment of established salicylate intoxication consists of giving fluids intravenously (orally in mild cases) to correct the existing water deficit. Dextrose is administered to combat ketosis. Base solutions are contraindicated in the early stages, as they may lead to tetany, convulsions, and death. They should not be given until acidosis supervenes some 4 to 6 hours later. Base therapy must be administered cautiously as rapid correction of the acidosis may result in alkalosis. Barbiturates, paraldehyde, and morphine are definitely contraindicated because of their synergistic effect with the salicylates in

producing a central nervous system depression.

Cann, H. M., and Verhulst, H. L.: *The Salicylate Problem with Special Reference to Methyl Salicylate*, *J. Pediat.* 53:271-276 (September) 1958.



Multiple Sclerosis

Multiple sclerosis is a challenge to all those who are concerned with it. Early diagnosis is difficult and often it is missed. In the absence of physical findings the common early complaint of general fatigue often labels the patient with multiple sclerosis as a neurotic. This impression may be confirmed by the presence of parathesias, clumsiness, and double vision. A high index of suspicion should be developed for multiple sclerosis. This is true in the Great Lakes area where it is seven times more prevalent than in other parts of the country.

When a diagnosis has been confirmed it is best to tell the patient. It is imperative to impress on the patient and his family that there is no known cure. Disability must be expected.

The chief limiting factor in the patient's activities is fatigue. The family as well as the patient must understand the wisdom of an energy budget. It is well to keep in mind that emotional factors may enhance the underlying physical fatigue.

Visual problems must be faced. Some persons become blind. No one can predict whether or for how long vision may be retained. Intention tremor may be a serious deterrent to self help and feeding. The general energy of the patient can be drained by bladder frequency. The bladder problem can become a source of emotional isolation for the patient.

Neuromuscular deficits of equilibrium and spasticity with corresponding weakness can be maintained and somewhat eased by active physical treatment. Exercises should be tailored to the patient's need and made a basic part of the daily routine. Although he will not always see it as such, the use of canes, crutches,

and bracing, as indicated, are preferred to a wheelchair.

In order to reorganize the general program it is recommended that frequent consultation, as needed, be had with the patient and his family. The decision to discontinue a job or to curtail homemaking activities is better made in conjunction with the physician's advice than emotionally or irrationally by the patient in a fit of frustration. Vocational retraining might better be started early. Where no thought has been given to this possibility, a sudden loss of a job often proves to be catastrophic. In fact, sexual impotence is often directly related with the loss of a job or a fear of such a loss. The ability to walk remains intact but the motive may become seriously altered with loss of a job. All problems inherent in the disease can be reduced through the foresight and militant action by persons closely related to the episode.

McMorrow, Kathryn: *Management of Multiple Sclerosis in Gen. Prac.* 18:126-127 (December) 1958.



Suicidal Poisoning

Suicidal deaths occur in the United States at the rate of 17,000 per year. The major causes of suicides are ingestion of poison, firearms, hanging, and poisoning.

Most suicidal attempts do not end in death. Frequently they go unreported so that no accurate figures are available. Every hospital emergency room has experience with such cases. In fact these attempts form an important segment of emergency medical practice.

Friends or relatives usually bring poisoned persons under medical observation before death supervenes. Most of these suicidal poisonings can be treated with success. Patients who attempt suicide with barbiturates and other hypnotic drugs usually obtain these drugs on prescription. Often these patients make the rounds of several physicians and clinics in order to accumulate several prescriptions before an attempt is made.

With the recent increasing popu-

larity of newer sedatives and ataractic drugs, suicide attempts with these products will occur more frequently.

Suicide attempts frequently involve the use of prescription drugs. The professional should, therefore, bear some of the responsibility for their attempts. The possibilities of a suicidal trend should be considered in patients whose symptoms are of an emotional nature or are vague. Prescribing large doses of sedatives should be avoided in most cases where there is evidence of depression, impulsive behavior, obsession with insomnia, deficiencies in judgment, and alcoholism. Care in prescribing involves limitations on amount and on refills.

The patient-physician relationship may be a powerful factor in suicide prevention. Patients often welcome the chance to talk about their depression and suicidal thoughts if the opportunity is offered by someone in authority. When suicidal trends are suspected, it is imperative to inform a member of the family of the risk and it may be necessary to have the family control the supply of drugs. The method of attempted suicide may offer clues to the personality of the patient and act as a guide to therapy.

Norbury, F. G.: *Suicidal Poisoning*, *Illinois M. J.* 114:99-101 (September) 1958.



Medical Care of Adolescents

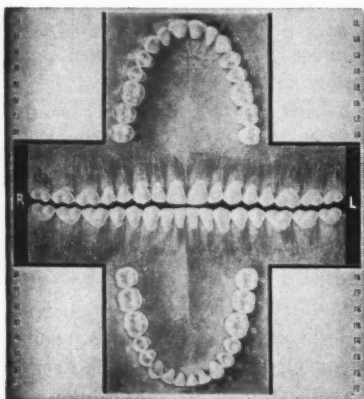
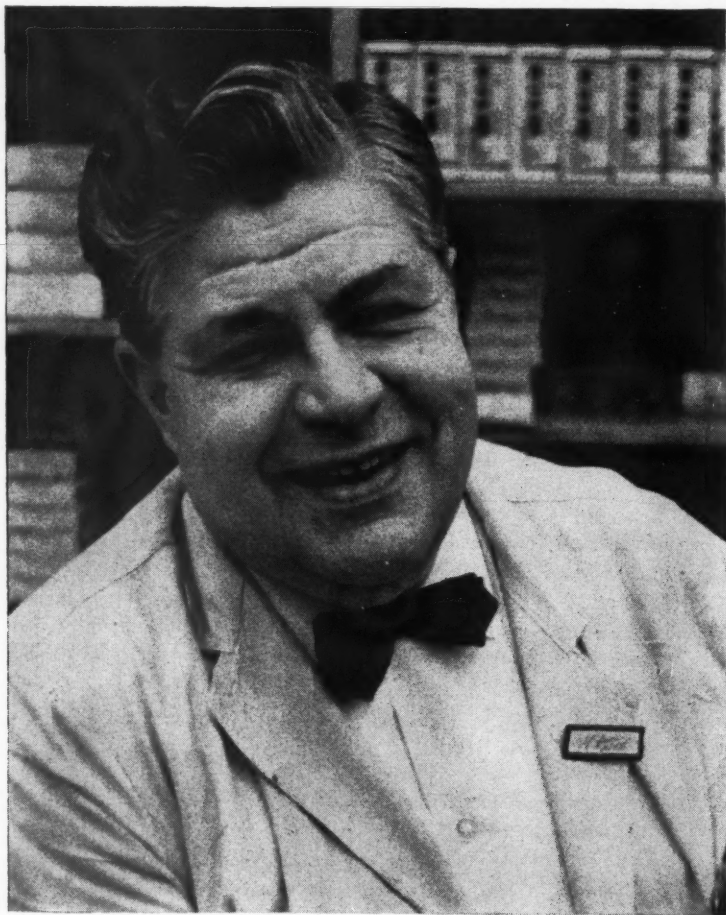
Expert medical care during adolescence may have a profound effect on a patient's life. With increasing age, the patient may be less malleable and disturbances that might have been easily corrected earlier may become refractory.

Adolescents are often overconcerned with themselves. Therefore, they are susceptible to interest shown in them but are also sensitive to an indifferent attitude. Unless the physician gives as much attention to personality traits as to symptoms, the young person will break appointments and disregard advice. As a result, treatment results will be mediocre.

(Continued on page 186)

The patient: E. T., 47, male. Three teeth extracted, lower jaw, left side. Partial denture indicated. Impression quickly made with Jeltrate, the impression material with the smooth, creamy mix. Firm but flexible texture never breaks off teeth. "Stretch . . . squeeze . . . return" for dependable accuracy. Hard, glass-like model surface without fixing. Long shelf life in the economical bulk container.

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Among adolescents there is a great deal of concern for bodily defects which may seem minor to the doctor. Skin blemishes should be examined with more attention and more privacy than would be necessary were the patient a child or an adult. The rate of growth and extent of sexual maturation may be charged with emotional content for the adolescent. Symptoms frequently arise from anxiety concerning sex, changing relationship to parents, religion, disrupted home life, or school work.

Often adolescents engage in strenuous activities to gain prestige and recognition. For example, a poor student may gain confidence by excelling in athletics. Whenever possible, therapy should be directed toward strengthening rather than resting the young person with chronic fatigue or a painful back.

The care of adolescents with cardiovascular disorders illustrates the special needs of these patients. Heart murmur is one of the commonest reasons for adolescent attention. The physical signs are most obvious during adolescence because the heart is then at a peak of activity, the chest is still thin and anxiety is frequent. Careful examination may lead to diagnosis and correction of a significant difficulty or more frequently, eliminate unnecessary restriction and worry. The patient should be completely reassured and allowed to be as competitive as skill and health in general permit if physical, electrocardiographic, and roentgenographic examinations show no cardiac, pulmonary, or vascular disease.

Blood pressure readings are important in examinations of adolescents. Less than 2 per cent of patients have a significant degree of hypertension and at least three-quarters of these have a labile type associated with anxiety. High blood pressure may be a sign of a serious condition such as coarctation of the aorta, chronic nephritis, or unilateral renal disease. True essential hypertension is rare in this age group.

Gallagher, J. Roswell: *Adolescents and their Medical Care*, Connecticut M. J. 22:649-652 (August) 1958.

Contra- Angles



Hazards of High Speeds

Our British colleagues are more avid letter writers than are dentists in the United States. The tradition that established the "Letters to the Editor" in the *London Times* has rubbed off on the dentists in England. The correspondence column in the *British Dental Journal* often carries sparkling and delightful comments—quite unlike the letters that are usually printed in dental journals in the United States.

British dentists have had their experience with the air turbine machines for reducing tooth structure. Their over-all reaction has been the same as ours—an enthusiastic acceptance of the device. There are some dentists, however, who have had annoying experiences with the machine and they have shown no hesitancy to express themselves on the subject: with charm, good nature, and vigor. Here are two letters in point:

"Having worn spectacles and face mask for the best part of twenty years, the former by necessity and the latter by inclination, the use of the air turbine did not at first present any terrors to me, but continued experience has convinced me of the need for utmost vigilance and increasing care. All now seem agreed that spectacles be worn, but the logical corollary that a mouth and nose screen be also worn does not seem to be accepted.

"As regards the former it seems ridiculous to suggest that the patient should also wear protective glasses, though it is interesting to record a specific case in which, while the operator was trimming a gold inlay behind the semi-reclined patient, the latter said 'I have something in my eye.' Examination did show a gold fragment in his eye with many others on

(Continued on page 192)

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CLINICAL AND LABORATORY SUGGESTIONS

(See pages 182 and 183)

Form to be Used by Contributors

To: Clinical and Laboratory Suggestions Editor

DENTAL DIGEST
708 Church Street
Evanston, Illinois

From: _____

Subject: _____

Explanation of Procedure:

Sketch:

Suggestion submitted cannot be acknowledged or returned.
\$10 will be paid on publication for each suggestion that is used.

the hair and face, and clearly minute gold chippings had shot up in the air and descended in a gentle rain on the patient's face. The chip was easily removed and a lesson learned.

"It is also noticed in asthmatic or bronchitic patients that if the air turbine is used dry, a spasm of coughing will start very quickly, similar to that shown when a person so afflicted is in a dusty environment.

"The design of a face screen will depend on the operator's tolerance of such a discipline, but as this is learned by the apprentice surgeon as a matter of course, almost wholly for the patient's welfare, the dental surgeon should be ready to accept a similar discipline for his own good. It is true, tolerably efficient filtration requires at least a double handkerchief thickness and ideally much more, but experiments with a Martindale Smog Mask, costing half a crown, can be a good starting point.

"Carriage of infection from the patient by direct blast or venturi effect is a real menace, and any research on this aspect should cover a study of respiratory morbidity amongst dentists using these tools. Any dentist developing an acute respiratory infection might do well to have his nose or pharynx cultured as a massive almost pure growth of organism would suggest it has been acquired in this way, and one such case is already known to me.

"With the early development of this tool in America, and the wealth of literature on its technical applications now available it is astounding how little serious matter is available on the aspect of operator hazard from the country of origin; presumably dentists have been happy to regard themselves as expendable casualties in the march of progress, but not all of us are so uninhibited and there is a valuable field for our own research workers to prove or disprove what at the moment seem to be real grounds for disquiet."

And from another correspondent:

"I have been most interested in the letters that you have published concerning the high speed preparation of dental cavities.

"I have been using a turbine drill

for twelve months now, and I can find none of the faults which have been mentioned. I was surprised to read in the letter of one correspondent that he suffers from acute respiratory discomforts resulting from the use of a high-speed drill. I have found just the reverse. Deposits found on my glasses after cavity preparation with a high-speed drill are less than those found with a standard engine with a water spray, and I can only assume that this practitioner must be mistaken in his assumptions. As to a 'cloud of oil,' I have never been able to demonstrate oil of any form in the patient's mouth, or in the immediate vicinity outside, and I wonder if the colleague's machine is correctly connected.

"Many letters have been written, and much has been said, about the danger of the bur falling out of the handpiece and causing damage. I have never been able to persuade a bur to go anywhere but vertically downwards when it has left the drill unaided, and at speed.

"May I add that I am still using the same rota head that was supplied with the machine twelve months ago. It is still in perfect condition and is in daily use."

Death in the Dental Chair

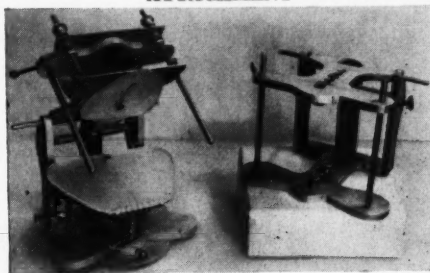
Last autumn, shortly after the American Dental Association Centennial, the newspapers and press services reported the deaths of two children in the dental chair. One 11-year-old boy died *after* a tooth extraction; a 2-year-old boy died *before* an extraction. These are tragic cases.

Every day children are killed in accidents and die from disease and following surgical procedures. These sad events do not make nation-wide headlines.

If every dentist in the United States in the course of a year administered ten local or general anesthetics a month the yearly number of anesthetics given by all dentists would reach the staggering total of more than 10 million. The fatality rate among these 10 million anesthetics is probably less than one in a million.

Dentists are so skillful in their administration of anesthetic agents, both

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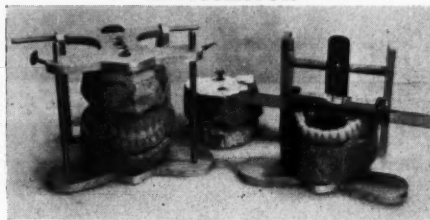
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local and general, that the public and newspaper people expect perfect performance despite the fact that we are operating on people in all stages of disease and disability. This is the fact that we should make better known in our public relations dealings.

The Fuss Over Education

It is true that courses in folk dancing and basket weaving are scarcely worthy to be considered outlets for higher education. Even in our professional schools there is too much froth. Medical educators are giving attention to a revaluation of the medical curriculum with a view to a possible reduction of time in some courses of study. Dental educators might make a similar examination.

I am appalled by the waste of time when I recall the hours that were spent in my days in dental school on such useless puttering as making cutting instruments (that could not cut hot butter) and concocting dental cements (that would not set). I presume that the present dental training program

has educational quirks that are quite as asinine as those that my colleagues and I experienced under the headings "operative dentistry" and "metallurgy."

It was not until the Russians began to prod us from our complacent and lethargic state that we began to take a serious look at our educational system.

One of the prominent educators of the country (J. R. Killian, Jr., Chairman of the Corporation, Massachusetts Institute of Technology) has taken a look and has expressed his concern in what he sees in the present system:

"Against this background I come to you to express my personal conviction that the security of our country and its position of leadership continue to be adversely affected by too much complacency, too little adaptability, too much ease and self-satisfaction, and too much slacking of standards in American life. In saying this, I add that it is not difficult to spot some of my fellow-educators who are current-

(Continued on page 194)

Discoloration

While one sometimes hears of gold tarnishing in the mouth, we very seldom run across a case where that is actually what happened. In nearly every case, the appearance of discoloration or "tarnish" is caused either by a rough, porous or poorly finished surface on the casting, or simply due to the fact that the patient has not kept the appliance clean.

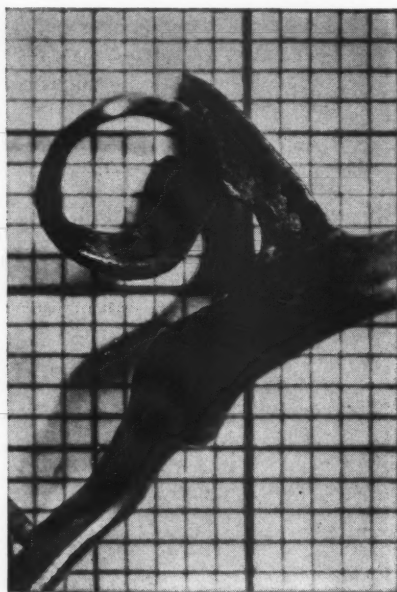


Fig. 1

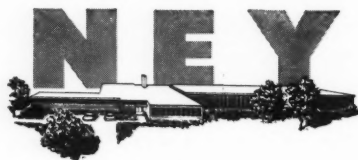
The photograph above (Fig. 1), at a magnification of 4X, shows a very badly discolored casting sent in for our inspection. Under the low power microscope it was evident that most, if not all, of the discoloration was simply a deposit of organic matter from the saliva. The deposit was extremely heavy and could be scraped off with a dull instrument or fingernail. It was removed by simply cleaning the surface of the casting with a toothbrush and

dentifrice. There was no true tarnish or corrosion whatever on the metal, but the casting was very poorly finished and stone scratches and stone marks acted as traps.



Fig. 2

On the other hand, the photograph shown above (Fig. 2), at a magnification of 100X, shows the cross-section of a palatal bar indicating typical shrink-spot porosity which is usually caused by improper spruing. Note the considerable surface porosity which would act to trap an accumulation of salivary deposit similar to that which forms on natural teeth. Such pitting would almost certainly cause staining and discoloration of the gold. Properly cast and properly finished gold restorations kept clean do not, in our experience, show tarnish or discoloration. *The J. M. Ney Company, Hartford 1, Connecticut.*



HARTFORD 1, CONNECTICUT

ly too complacent about these deficiencies...

"The wise use of our top talent is one of the most crucial requirements we face. We have too often fallen into the delusion that a mass attack on a technical problem is most likely to bring about its solution, that if we spend enough money and hire enough men and crash ahead, the job will get done quickly and well. Actually, experience convincingly demonstrates that brain power and good judgment, and not bodies, are what really carry us ahead. Gifted men sometimes are handicapped by having to contend with too many mediocre helpers..."

"Next in this list of necessities is the requirement that we be strong economically in order to sustain our military strength and to meet our foreign aid commitments, while at the same time making sure that our own economy is progressing at its maximum rate of growth and meeting the rising expectations of our own people for an ever-increasing standard of living. Another one of the demanding challenges ahead is this need to increase the rate of growth of our economy. We must increase the efficiency of our industrial process and through research, we must steadily increase what the late Sumner Slichter called 'the industry of discovery.' The quality of the professional men and women we educate, especially in the fields of the sciences and of management, will be a major factor in our capacity to increase our rate of growth..."

"Education cannot be a nervous weathervane swaying with every fitful breeze but it can be a major means whereby a society adapts itself to changing conditions and new challenges..."

"One of the principal manifestations and sources of change is, of course, science and technology. The growth of scientific knowledge is given rough expression by such estimates that this knowledge now doubles about every nine years, that our technological effort is doubling about every decade, that there has been more progress in science in the past fifty years than in all preceding history. We see it em-

(Continued on page 198)

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Denture Esthetics and New Myerson Developments

Fourth New Dura-Blend Shade Improves Matching Accuracy

With the recent addition of three new shades, the Dura-Blend Shade Guide was tested and found to offer first choice for accuracy of match 44% more often than any other. Now a fourth new shade, M66, has been added, with color characteristics between those of M61 and M65. This has increased Dura-Blend's shade-matching superiority to 52%.

16 New Dura-Blend Moulds Ease Selection Problems

The 13 anterior moulds recently added made tooth selection with Dura-Blend plastic teeth more satisfactory than with any other teeth. Now in answer to requests from dentists, two new square upper moulds, and a new lower mould in the popular size range, have been added.

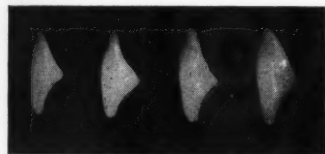


Figure 1. Slender forms, longer ridge laps, typical of new Dura-Blend Moulds.

Progress Report from

Myerson

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1. 89% undetectable in tests conducted on dentists.
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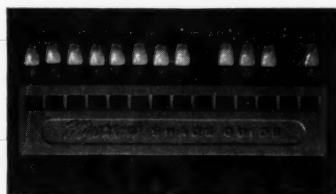


Figure 2. New Dura-Blend Shade Guide offers four additional shades.

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(see Figure 2) and mould chart.
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See page 193 D.D.4
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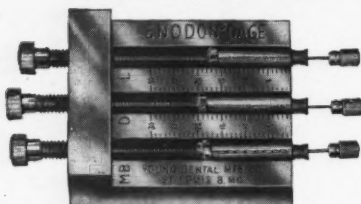
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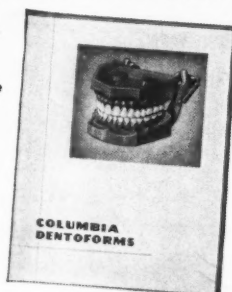
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phasized in the number of people who are now occupied in increasing this knowledge. To use the estimate of Professor Edward Purcell, about ninety per cent of all of the scientists who ever lived are probably living today

....

"The quality of our education is of fateful importance. We who are in education are under injunction to avoid complacency and self-satisfaction. We are under injunction to move along in the urgent task of improving our educational system in each of its parts and at all levels. We must, in every way we can, strive to underwrite the quality, taste, and integrity of American life. We cannot escape the brutal fact that education cannot escape the urgencies and demands of our national position. We must consciously shape our education to meet the priority national needs in this protracted period of conflict and danger."

We all have something to do with the educational system—for our children, for our grandchildren, for ourselves. Every profession has a challenge to improve the education of its members. How many of us are doing anything to meet this challenge?

—E. J. R.

Modifications of Oropharyngeal Bacteria with Changes in the Psychodynamic State

S. M. KAPLAN; L. A. GOTTSCHALK;
and D. E. FLEMING

An evaluation was made of the psychodynamic state and the bacterial flora of the oropharynx of a 32-year-old woman with history of recurrent upper respiratory infections and rheumatic fever. The findings suggest that the percentage of streptococcus varied with her psychodynamic state being related to the ways in which the patient handled her intense dependent yearnings.

From *American Medical Association, Archives of Neurology and Psychiatry* 78:656, 1957, in *Psychosomatic Medicine* 21:60 (Jan.-Feb.) 1959.

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